



PTN107 Antenna test report V2.1

Date: 2024/2/28

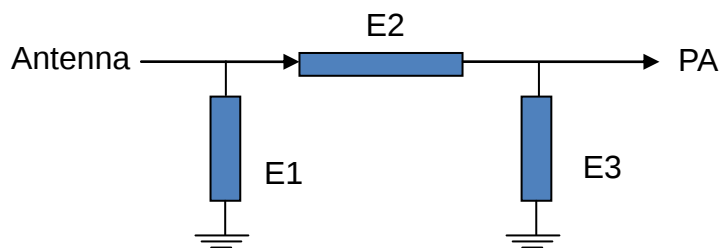
Test purpose: Verify FPC antenna performance

Conclusion: OK

Antenna	Band	Type	Requirement
BT	2400-2480MHz	onboard antenna	Refer to product spec

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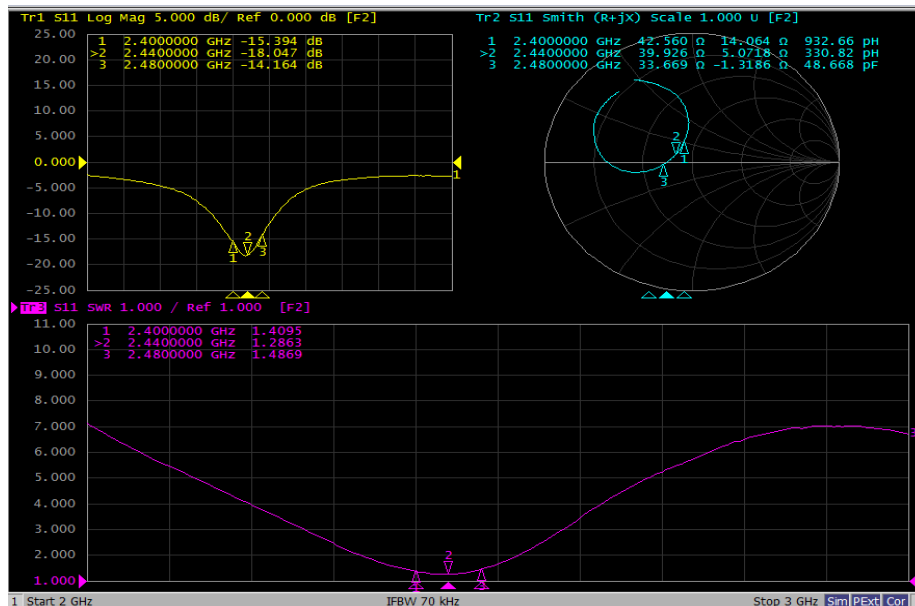
1. Antenna circuit matching



BT	
Element	
E1(0201)	NC
E2(0201)	OR
E3(0201)	NC

2. Passive S11 parameter diagram:

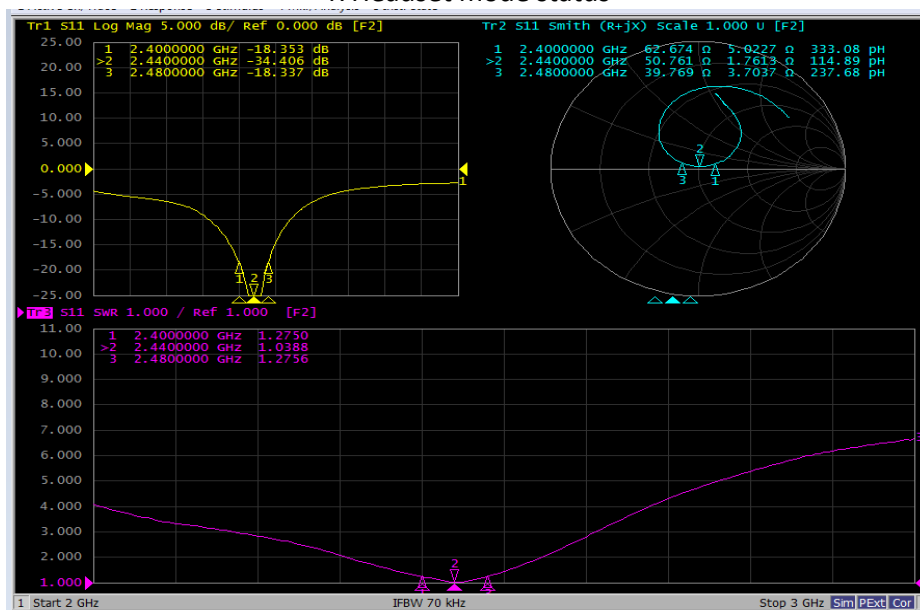
L Headset mode status



Freq (MHz)	2400	2440	2480
SWR	1.40	1.28	1.48
Log Mag	-15.39	-18.04	-14.16



R Headset mode status



Freq (MHz)	2400	2440	2480
SWR	1.27	1.03	1.27
Log Mag	-18.35	-34.40	-18.37

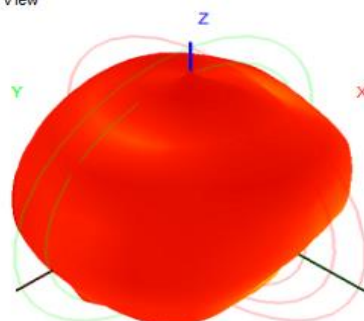
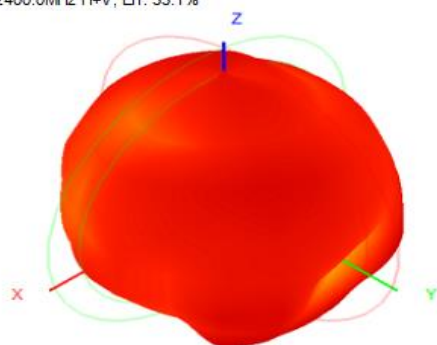
3. Antenna passive efficiency

L (Free Field)		
Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400	0.83	33.10%
2410	0.75	32.70%
2420	0.65	32.40%
2430	0.68	32.90%
2440	0.68	32.90%
2450	0.70	32.60%
2460	0.51	32.60%
2470	0.79	33.10%
2480	0.96	33.50%
2490	0.97	33.80%
2500	0.88	34.70%



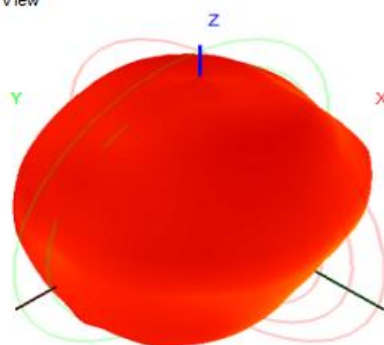
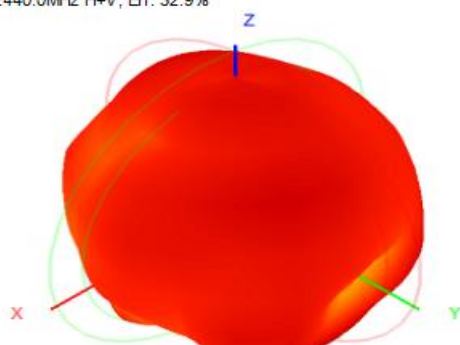
2400.0MHz H+V, Eff: 33.1%

Back View



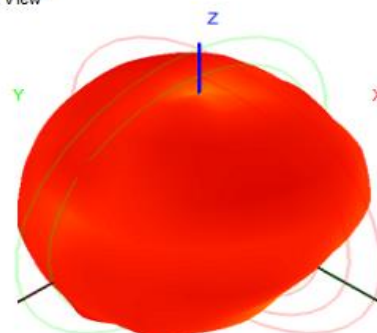
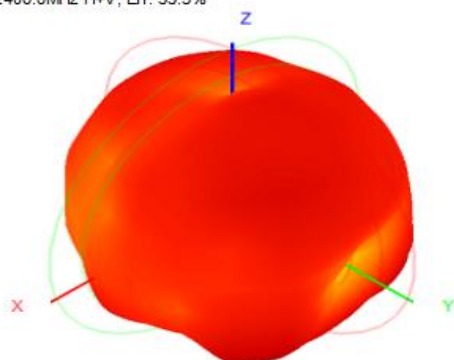
2440.0MHz H+V, Eff: 32.9%

Back View



2480.0MHz H+V, Eff: 33.5%

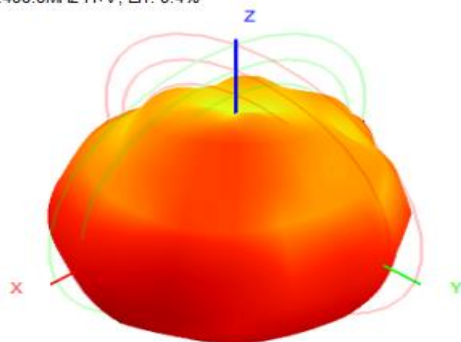
Back View



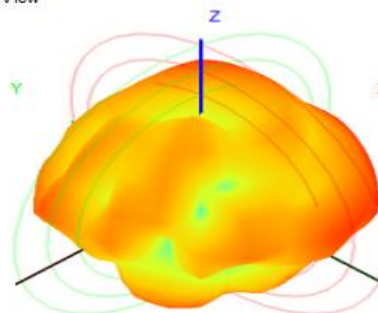


L (Head phantom)		
Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400	-4.11	8.40%
2410	-3.89	9.00%
2420	-3.58	9.50%
2430	-3.06	10.10%
2440	-2.66	10.60%
2450	-2.46	11.10%
2460	-2.40	11.40%
2470	-2.37	11.50%
2480	-2.35	11.30%
2490	-2.60	11.00%
2500	-3.02	10.40%

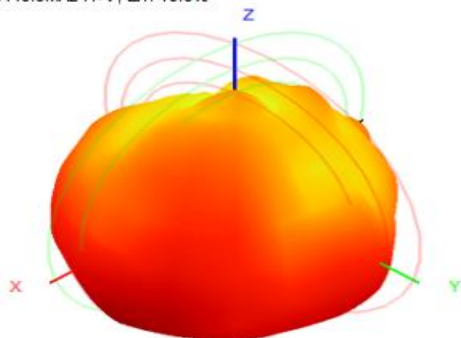
2400.0MHz H+V, Eff: 8.4%



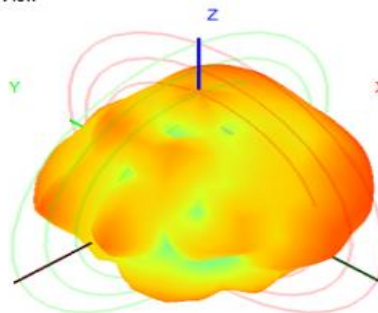
Back View



2440.0MHz H+V, Eff: 10.6%



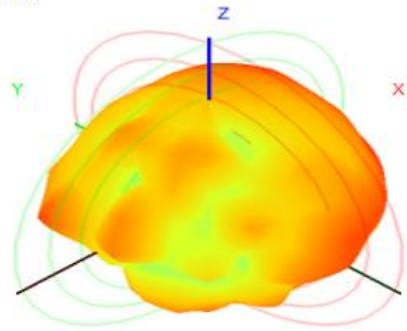
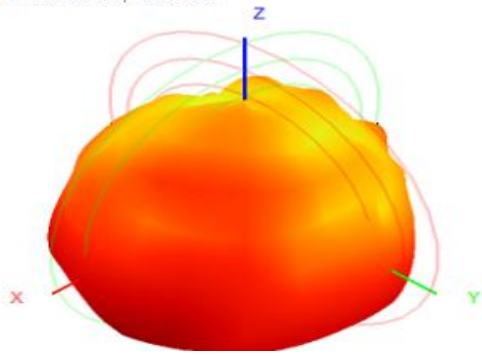
Back View





2480.0MHz H+V, Eff: 11.3%

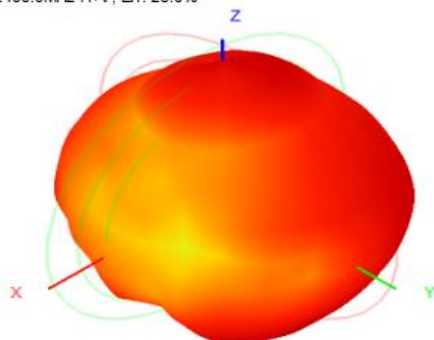
Back View



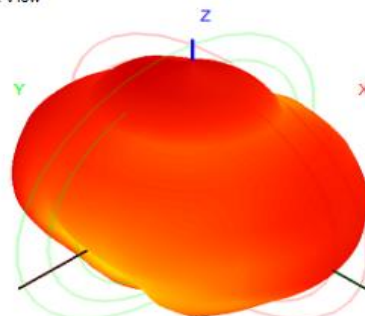


R (Free Field)		
Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400	-0.35	22.90%
2410	-0.33	23.60%
2420	-0.21	24.40%
2430	-0.21	25.20%
2440	-0.05	26.20%
2450	0.07	27.20%
2460	0.14	27.60%
2470	0.18	28.40%
2480	0.19	29.30%
2490	0.25	29.70%
2500	0.27	30.30%

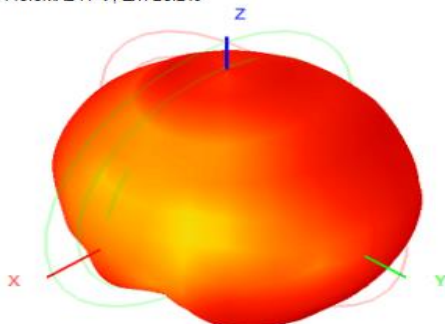
2400.0MHz H+V, Eff: 23.0%



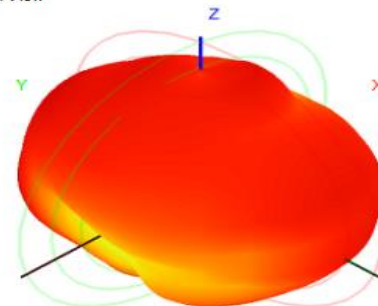
Back View



2440.0MHz H+V, Eff: 26.2%



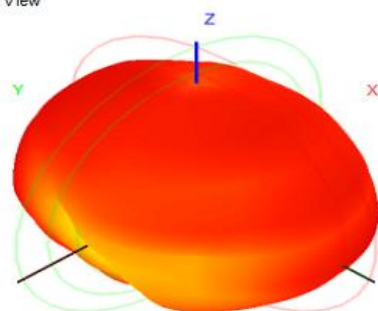
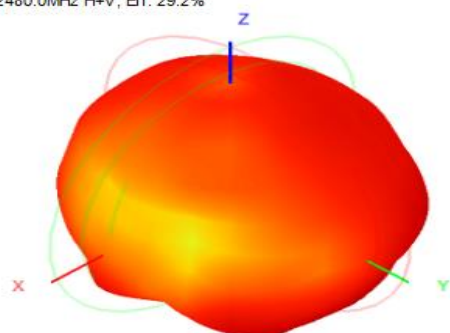
Back View





2480.0MHz H+V, Eff: 29.2%

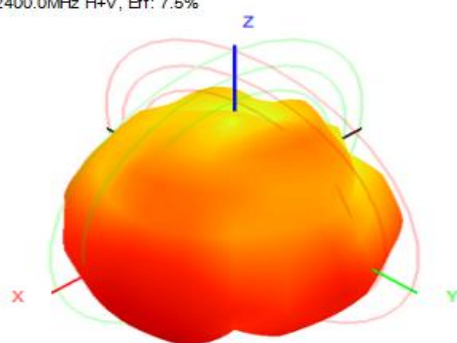
Back View



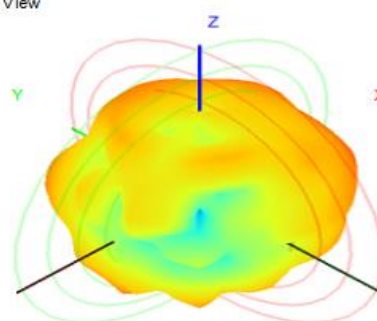


R (Head phantom)		
Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400	-2.82	7.54%
2410	-2.67	7.81%
2420	-2.48	8.00%
2430	-2.47	8.12%
2440	-2.43	8.30%
2450	-2.38	8.51%
2460	-2.45	8.51%
2470	-2.43	8.42%
2480	-2.42	8.29%
2490	-2.62	8.23%
2500	-2.87	8.12%

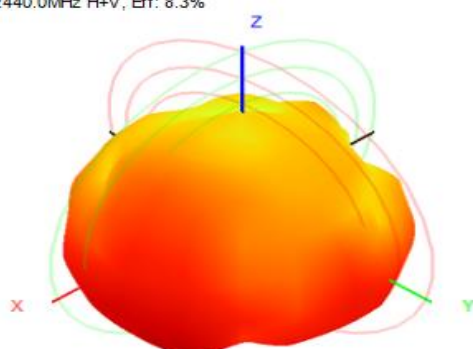
2400.0MHz H+V, Eff: 7.5%



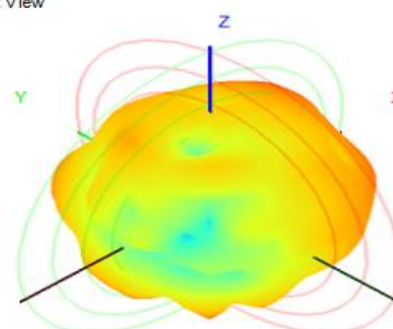
Back View



2440.0MHz H+V, Eff: 8.3%



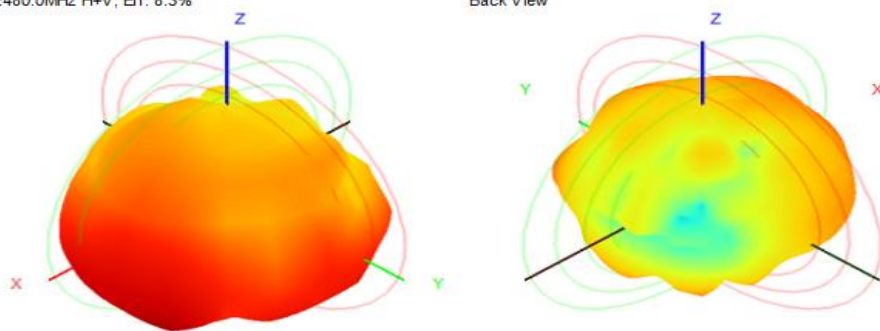
Back View





2480.0MHz H+V, Eff: 8.3%

Back View



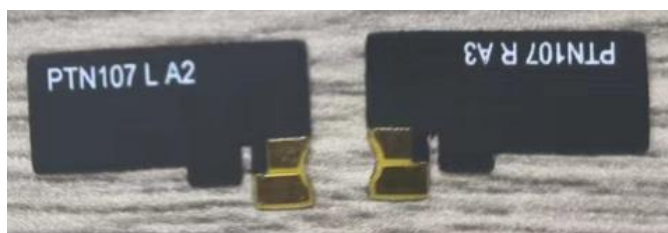
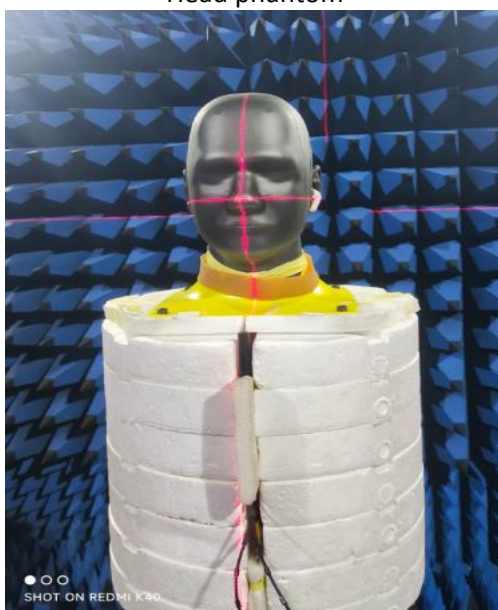


4. Reference pictures

Free field



Head phantom





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