

PTN108 Antenna test report V9.0

Date: 2024/9/12

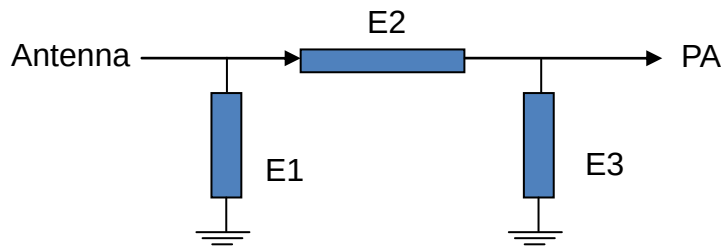
Test purpose: Optimize L-ear antenna OTA data

Conclusion: The antenna data is the same as the previous version

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

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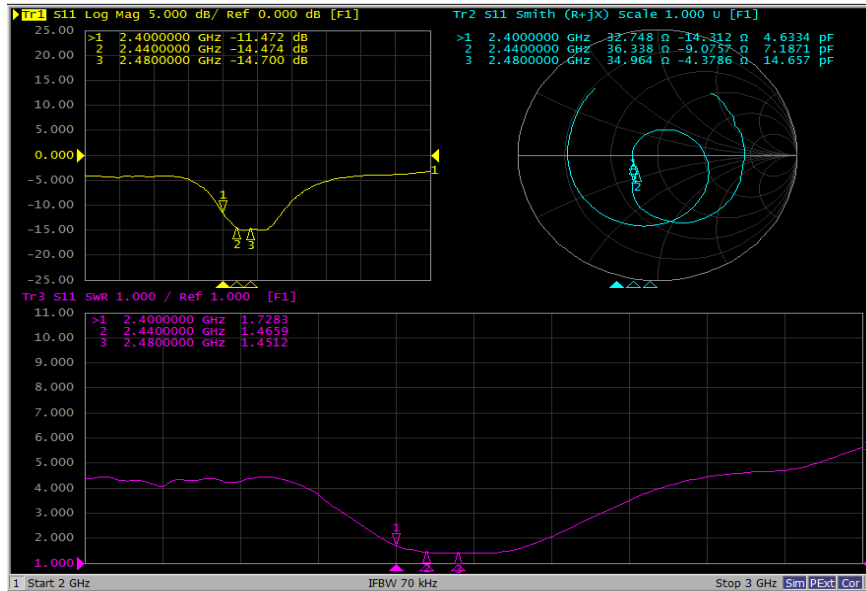
1. Antenna circuit matching



BT	
Element	
E1(0201)	NC
E2(0201)	0R
E3(0201)	NC

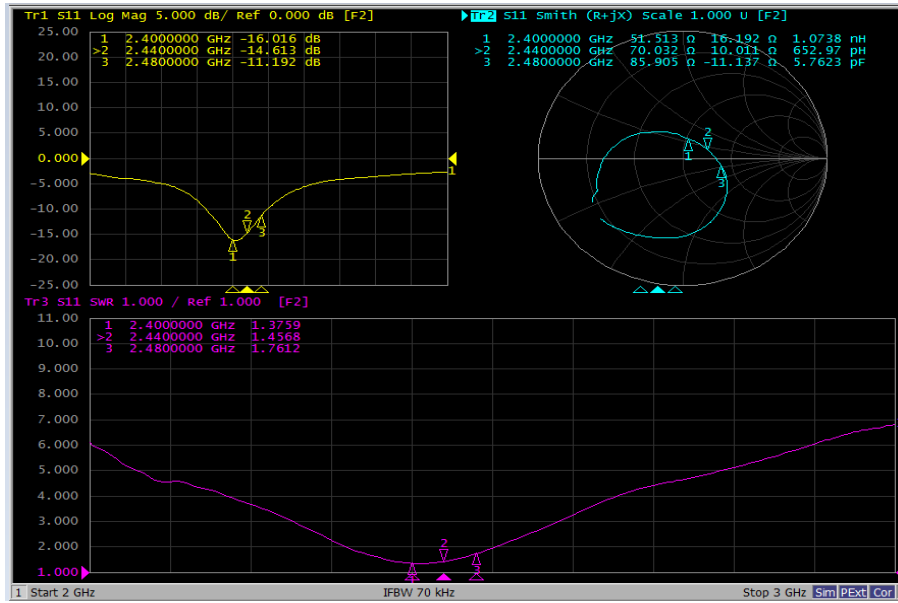
2. Passive S11 parameter diagram (with filter)

L Headset mode status



Freq (MHz)	2400	2440	2480
SWR	1.72	1.46	1.46
Log Mag	-11.47	-14.47	-14.70

R Headset mode status

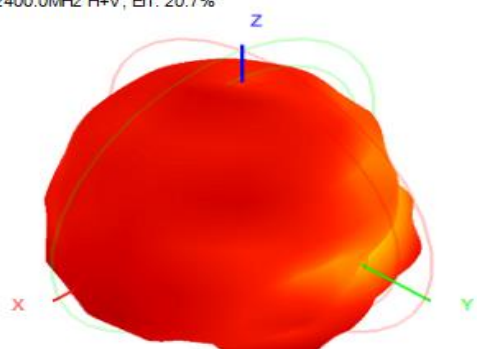


Freq (MHz)	2400	2440	2480
SWR	1.37	1.45	1.76
Log Mag	-16.00	-14.61	-11.19

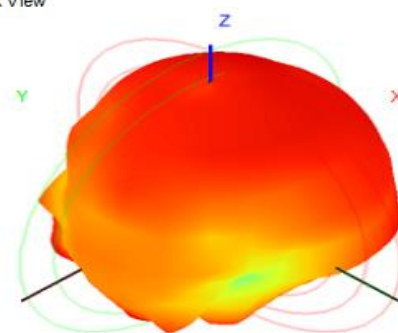
3. Antenna passive efficiency

L (Free Field)		
Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400	-0.77	20.74%
2410	-0.65	22.15%
2420	-0.74	22.86%
2430	-0.63	23.40%
2440	-0.40	23.96%
2450	-0.31	23.80%
2460	-0.02	24.71%
2470	0.22	25.34%
2480	0.25	25.46%
2490	0.16	25.75%
2500	0.11	25.58%

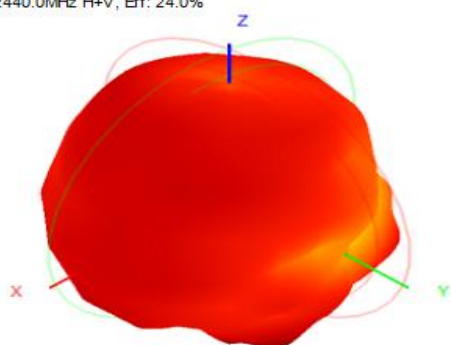
2400.0MHz H+V, Eff: 20.7%



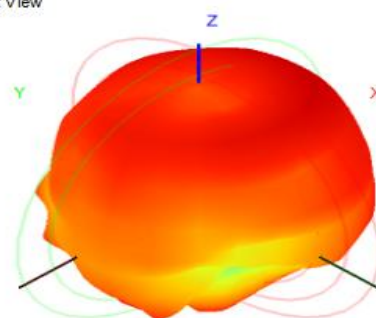
Back View



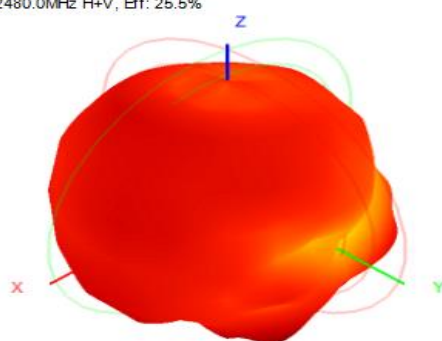
2440.0MHz H+V, Eff: 24.0%



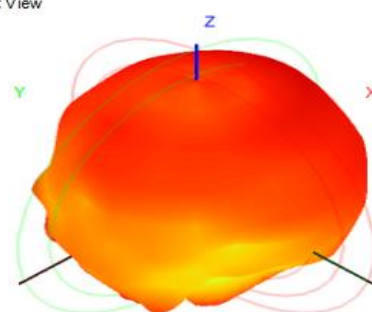
Back View



2480.0MHz H+V, Eff: 25.5%

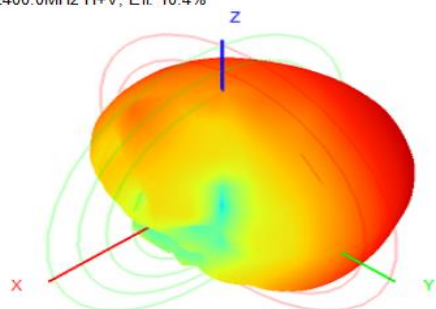


Back View

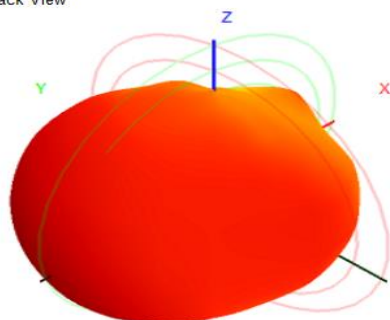


L (Head phantom)		
Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400	-3.15	10.40%
2410	-2.86	11.10%
2420	-2.81	11.30%
2430	-2.62	11.30%
2440	-2.39	11.60%
2450	-2.43	11.60%
2460	-2.50	11.80%
2470	-2.42	11.90%
2480	-2.50	11.70%
2490	-2.55	11.40%
2500	-2.62	10.90%

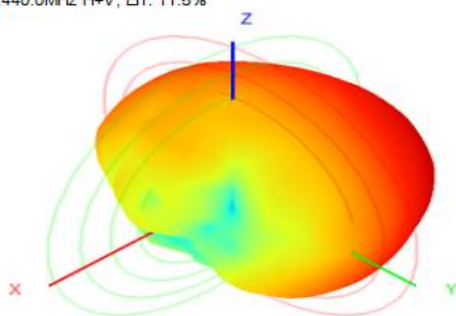
2400.0MHz H+V, Eff: 10.4%



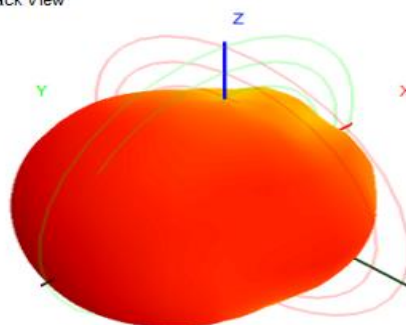
Back View



2440.0MHz H+V, Eff: 11.5%



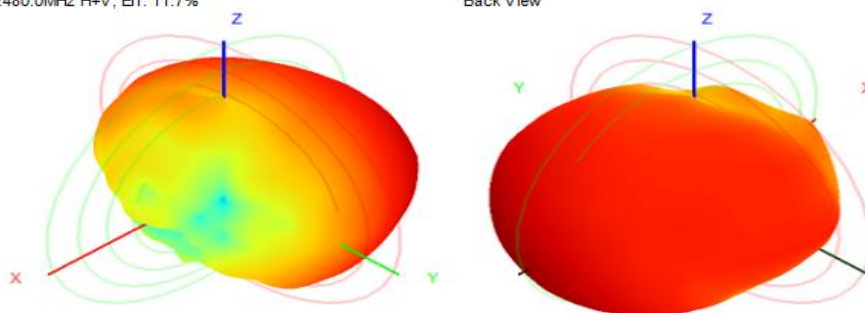
Back View



2480.0MHz H+V, Eff: 11.7%

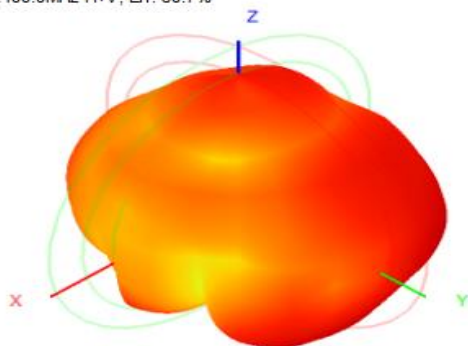
Back View

2

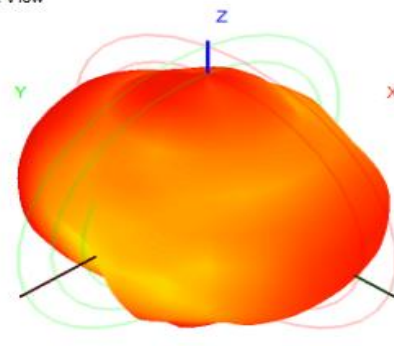


R (Free Field)		
Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400	1.60	30.70%
2410	1.62	30.80%
2420	1.63	30.90%
2430	1.59	31.00%
2440	1.44	30.90%
2450	1.28	30.10%
2460	1.00	29.10%
2470	0.80	28.20%
2480	0.45	27.30%
2490	-0.03	26.10%
2500	-0.39	25.10%

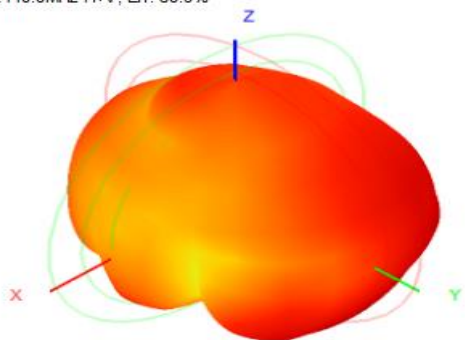
2400.0MHz H+V, Eff: 30.7%



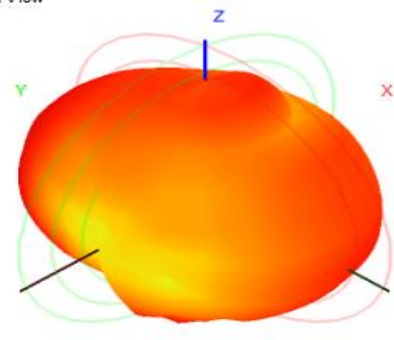
Back View



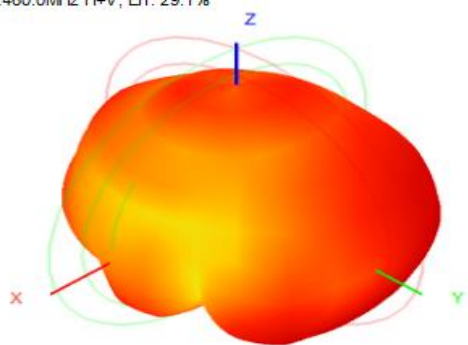
2440.0MHz H+V, Eff: 30.9%



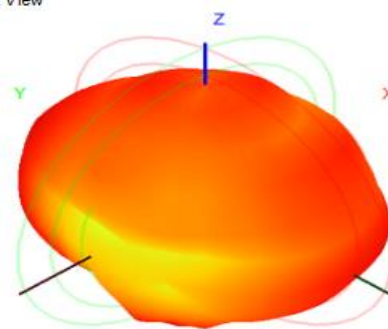
Back View



2460.0MHz H+V, Eff: 29.1%

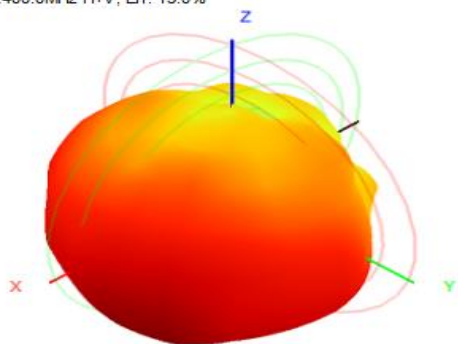


Back View

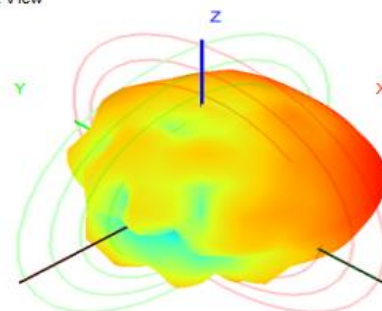


R (Head phantom)		
Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400	-1.06	15.10%
2410	-1.14	14.90%
2420	-1.21	14.70%
2430	-1.26	14.30%
2440	-1.35	13.80%
2450	-1.55	13.30%
2460	-1.78	12.80%
2470	-1.87	12.30%
2480	-1.95	11.90%
2490	-2.02	11.40%
2500	-2.23	11.00%

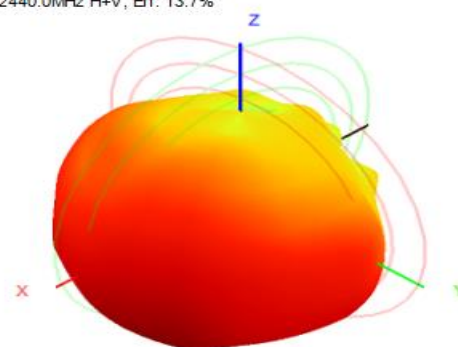
2400.0MHz H+V, Eff: 15.0%



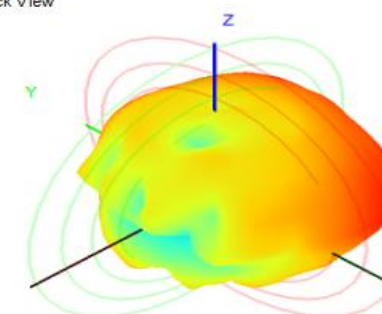
Back View



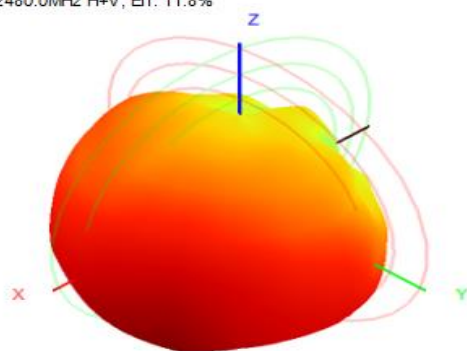
2440.0MHz H+V, Eff: 13.7%



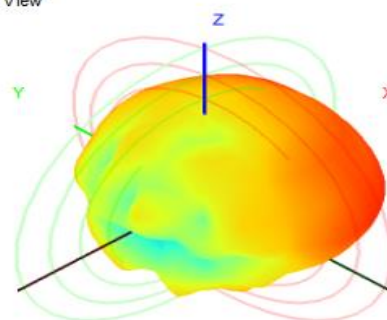
Back View



2480.0MHz H+V, Eff: 11.8%

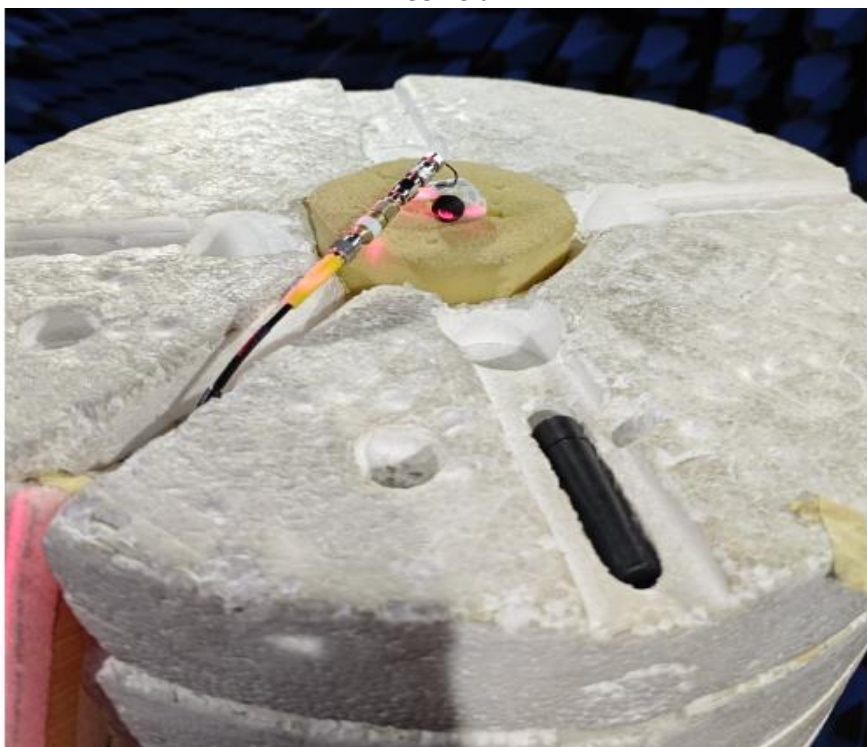


Back View



4. Reference pictures

Free field



Head phantom

