

SPEED TECHNOLOGY

SPEED Communication Technology Limited

Approval sheet of ZHONGQING Antenna

Customer/Project	Phobos	Frequency Band	Bluetooth		
SCT P/N		Version	T05		
Date	2022-10-12				
Material Code	F-0G-C6-0003-000-00				
SPEED					
Checked by	RF	ERICGUO	Design by	RF	肖鑫
	ME	ERICGUO		ME	邓润溪
	QC	TAOZHUTAO	Remark		
Customer					
Date					
Confirmed by	RF				
	ME				
Remark					



www.speed-hz.com

SPEED has possession of proprietary information provided in this presentation and this proprietary information shall be kept in strict confidence and not disclosed to any person or firm without the prior written consent of SPEED Communication Technology.

Index

1. Indication.....	3
2.Measurement Data.....	4
2.1 Bluetooth Antenna.....	4
2.2 Gain	7
3. Appearance drawing.....	9
4. Suggestions and Conclusion.....	10

www.speed-hz.com

SPEED has possession of proprietary information provided in this presentation and this proprietary information shall be kept in strict confidence and not disclosed to any person or firm without the prior written consent of SPEED Communication Technology.

Confidential Information

Description of the Phobos antenna information						
1	Antenna shape		FPC+WIRE+IPAX 1			
2	Antenna type		Bluetooth			
3	Material		Phobos (NBA3002)			
4	Frequency	HZ	:Bluetooth2.4G 2400M-2500M			
5	Peak Gain	DBI	≥ 2.5			
6	Efficiency	%	≥ 45			
7	Impedance	Ω	:50 Ω			
8	Wire length	MM	47 Grey			
9	Antenna Color		Black			
10	Edition		T05			
11	Other attributes			NO		
12	Manufacturer		SPEED			
13	Manufacturer model					

www.speed-hz.com

SPEED has possession of proprietary information provided in this presentation and this proprietary information shall be kept in strict confidence and not disclosed to any person or firm without the prior written consent of SPEED Communication Technology.

2. Measurement Data

2.1 Bluetooth Antenna

VSWR measurements (S_{11}) were performed using Agilent 5071C Network Analyzer. The testing was performed in free space. This section summarizes the electrical performance structure drawings confirmed by the customers, 2400MHz ~ 2500MHz Bluetooth antenna.

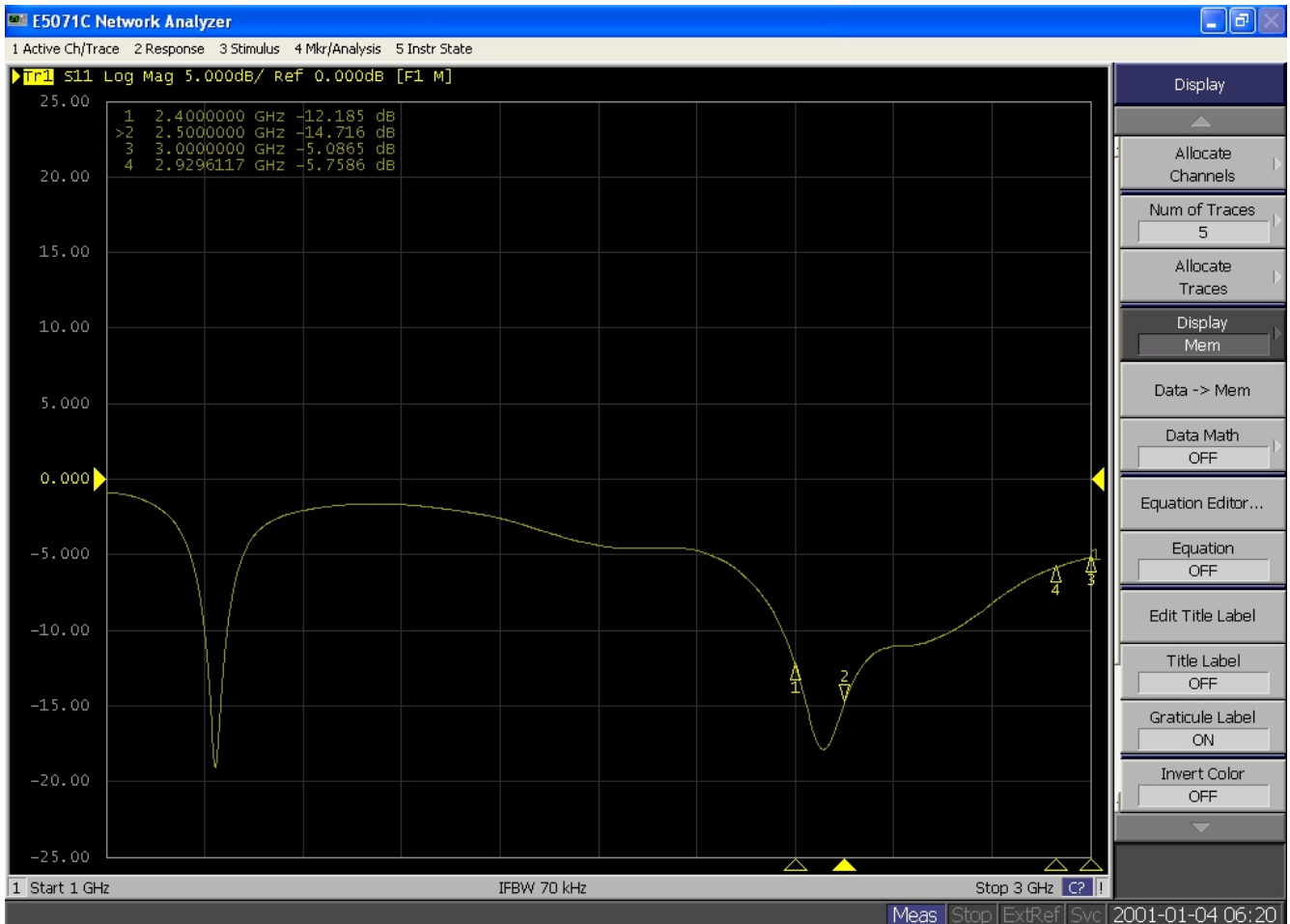


Figure 3: Bluetooth RETURN LOSS

www.speed-hz.com

SPEED has possession of proprietary information provided in this presentation and this proprietary information shall be kept in strict confidence and not disclosed to any person or firm without the prior written consent of SPEED Communication Technology.

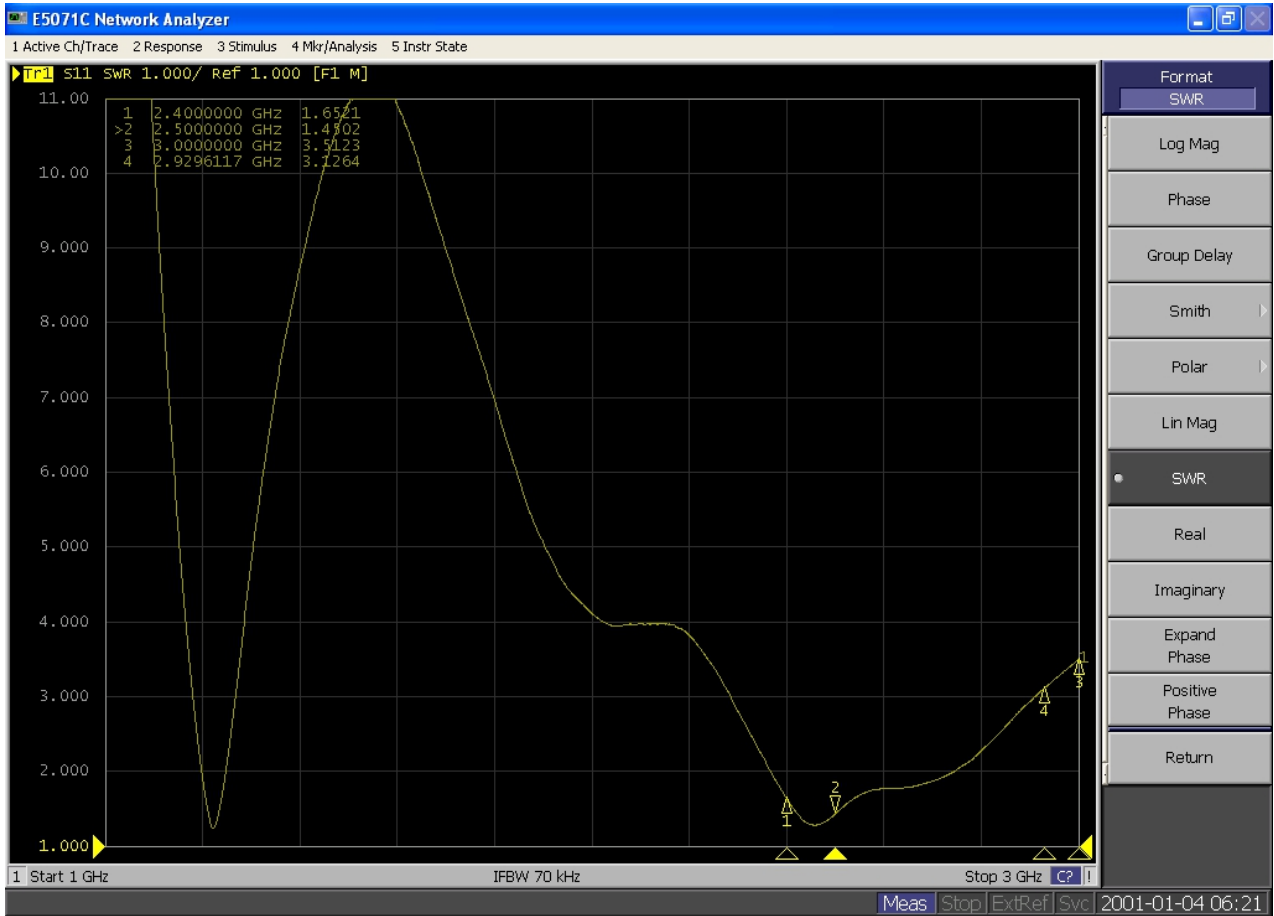


Figure 4: Bluetooth SWR

www.speed-hz.com

SPEED has possession of proprietary information provided in this presentation and this proprietary information shall be kept in strict confidence and not disclosed to any person or firm without the prior written consent of SPEED Communication Technology.

2.2 Gain

Frequency (MHZ)	Efficiency (db)	Efficiency (%)	Peak Gain (dbi)
2400	-3.44	45.3	2.8
2410	-3.32	46.6	2.92
2420	-3.47	44.9	2.77
2430	-3.42	45.4	2.82
2440	-3.46	45.1	2.78
2450	-3.45	45.2	2.79
2460	-3.41	45.6	2.83
2470	-3.31	46.6	2.93
2480	-3.38	46	2.86
2490	-3.37	46	2.87
2500	-3.44	45.3	2.8

2.3 Directional Diagram

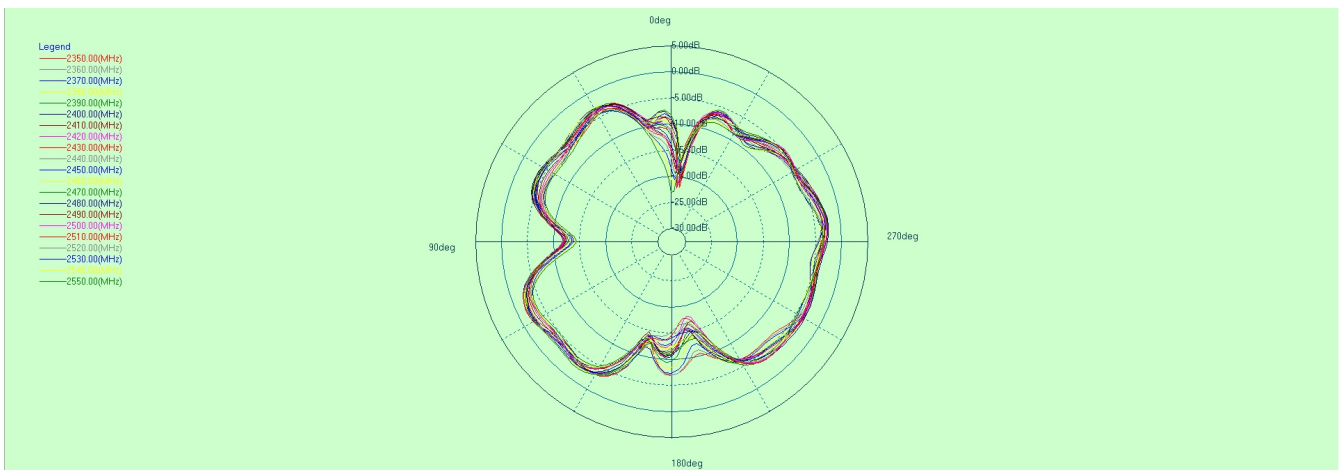


Figure 5: Theta=90°

www.speed-hz.com

SPEED has possession of proprietary information provided in this presentation and this proprietary information shall be kept in strict confidence and not disclosed to any person or firm without the prior written consent of SPEED Communication Technology.

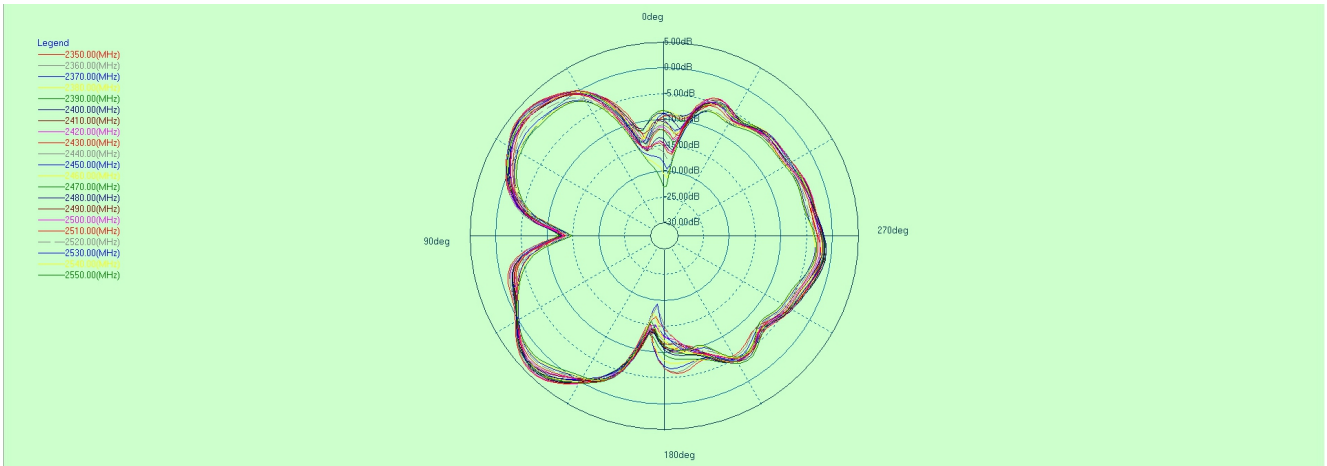


Figure 6: $\Phi=90^\circ$

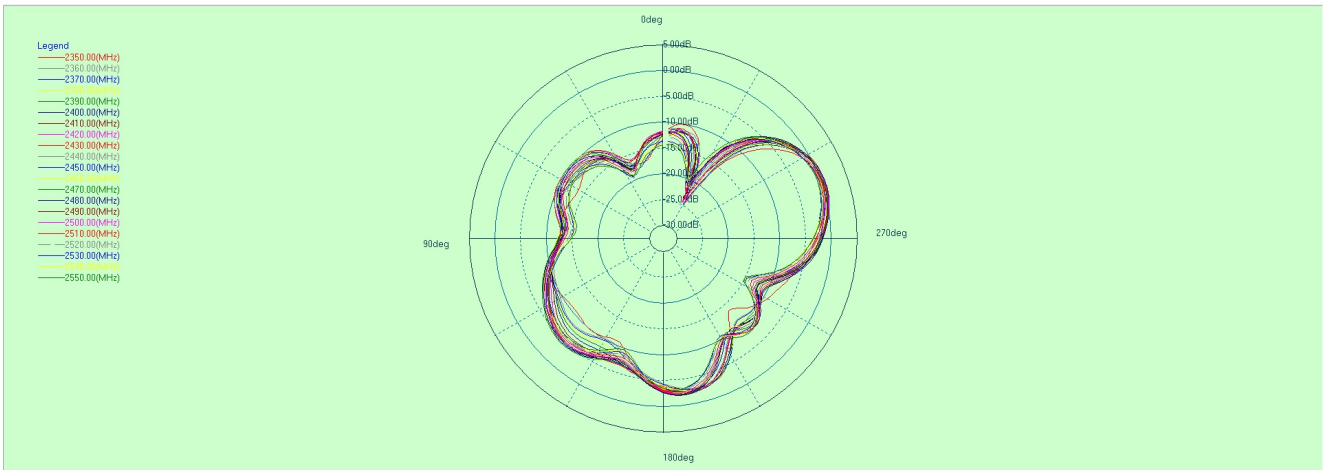


Figure 7: $\Phi=0^\circ$

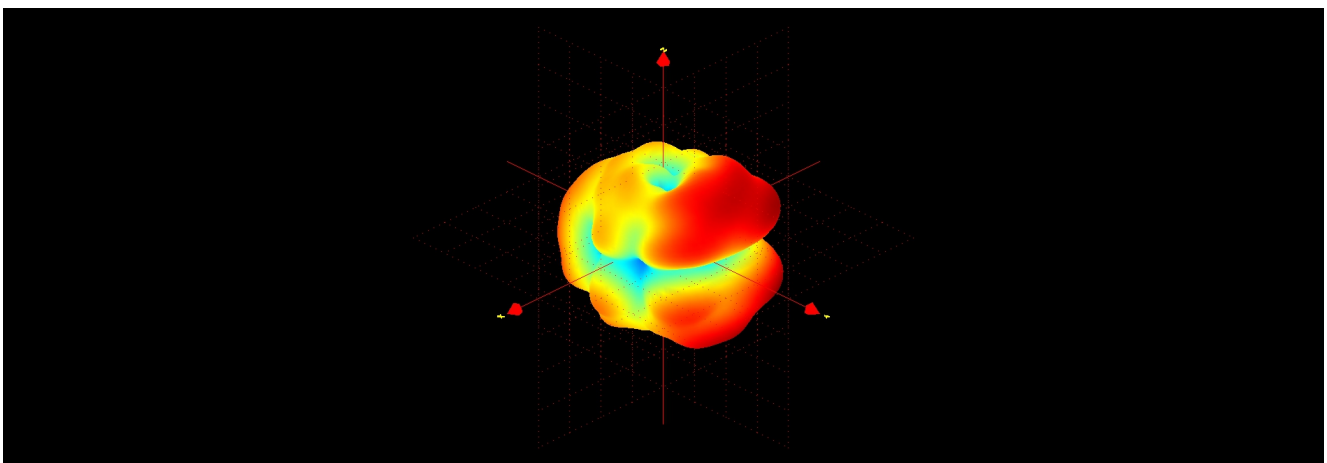


Figure 7: 3D model

www.speed-hz.com

SPEED has possession of proprietary information provided in this presentation and this proprietary information shall be kept in strict confidence and not disclosed to any person or firm without the prior written consent of SPEED Communication Technology.

4. Suggestions and Conclusion

This report summarizes the electrical performance structure drawings confirmed by the customers of Phobos project. Speed is looking forward to getting your approval. Thanks for your cooperation.

www.speed-hz.com

SPEED has possession of proprietary information provided in this presentation and this proprietary information shall be kept in strict confidence and not disclosed to any person or firm without the prior written consent of SPEED Communication Technology.