

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
	ME	ERICGUO	
	QC	TAOZHUTAO	Remark
Customer			
Date			
Confirmed by	RF		
	ME		
Remark			



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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					

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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.

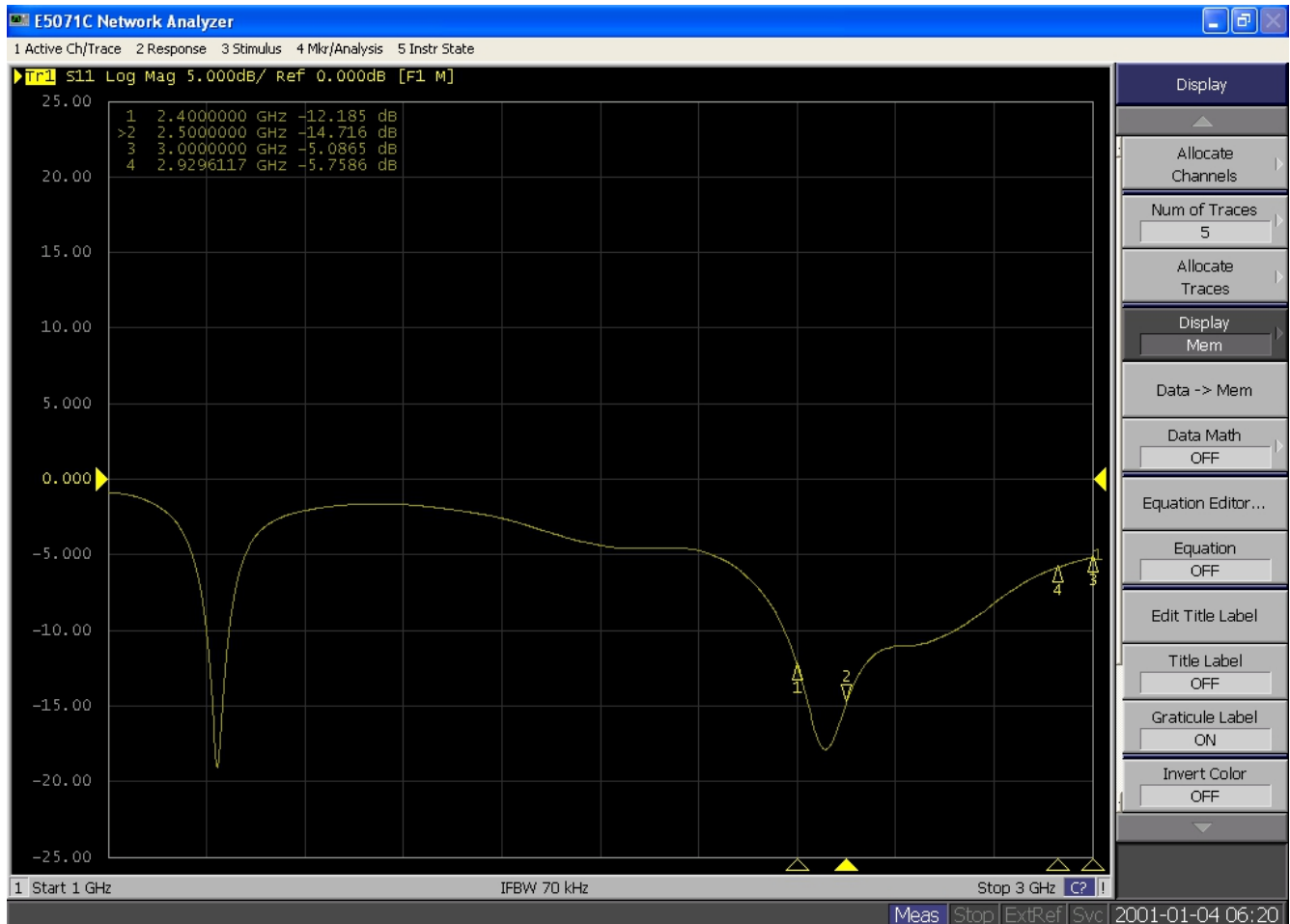


Figure 3: Bluetooth RETURN LOSS

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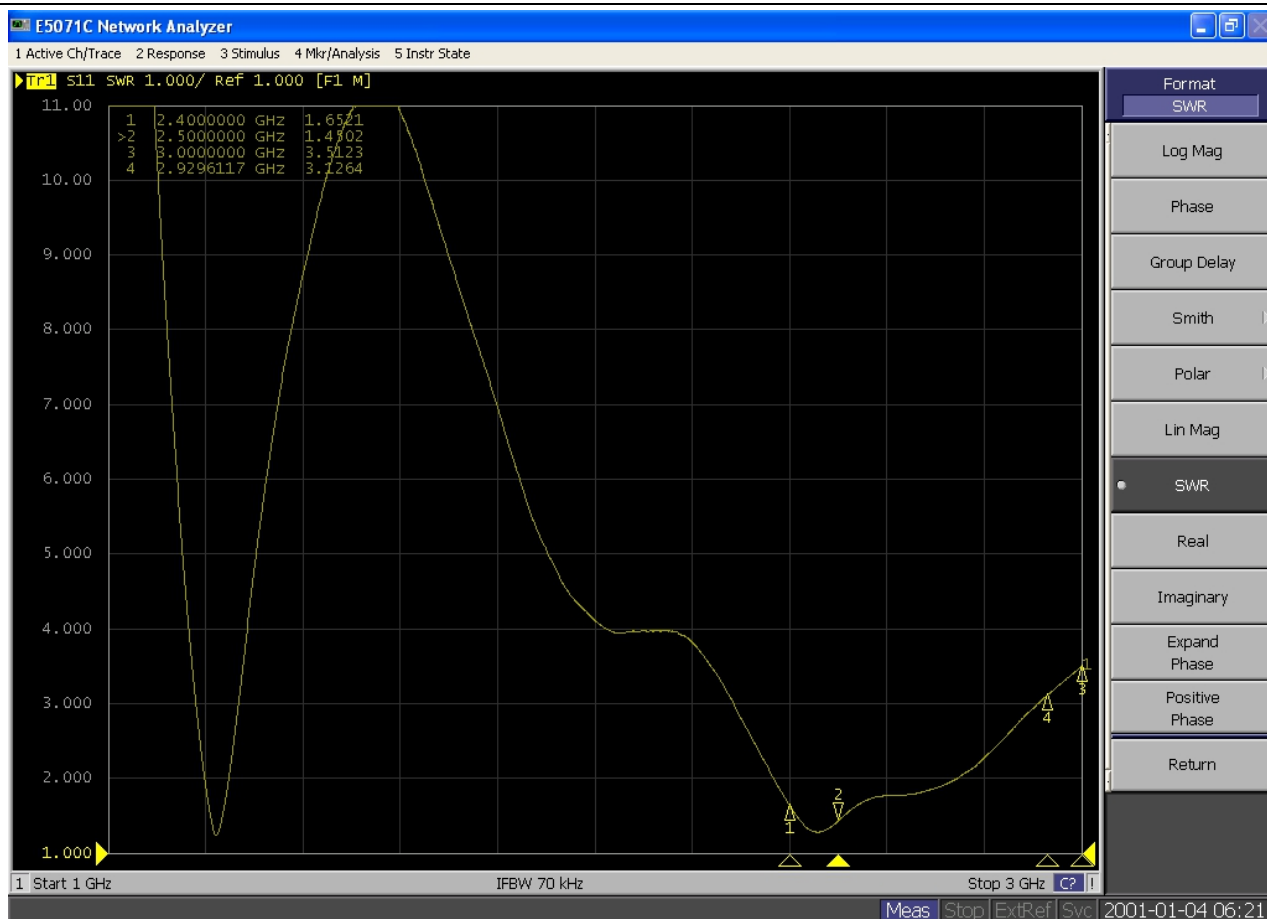


Figure 4: Bluetooth SWR

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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

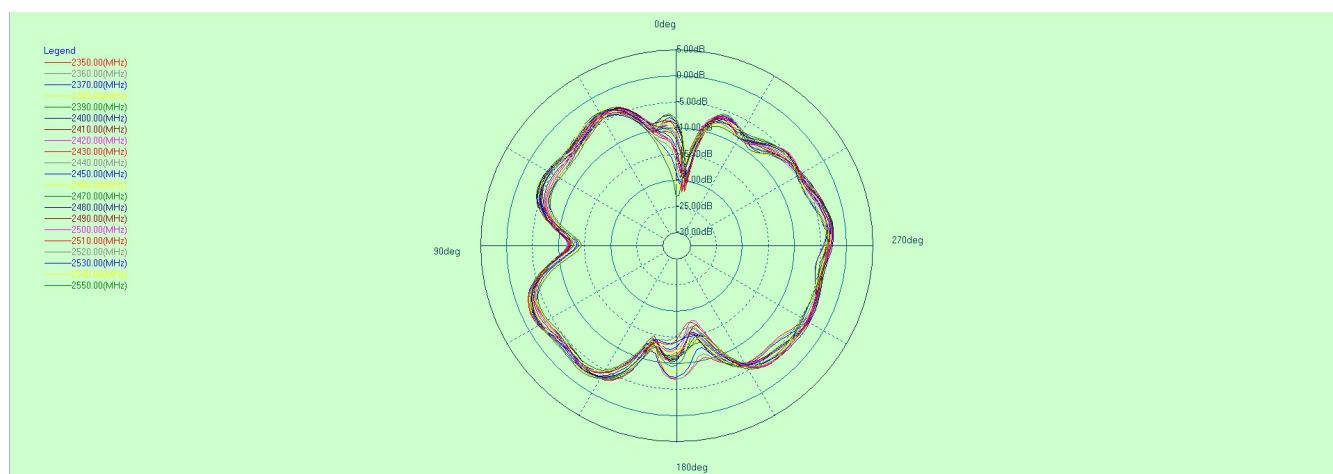


Figure 5: Theta=90°

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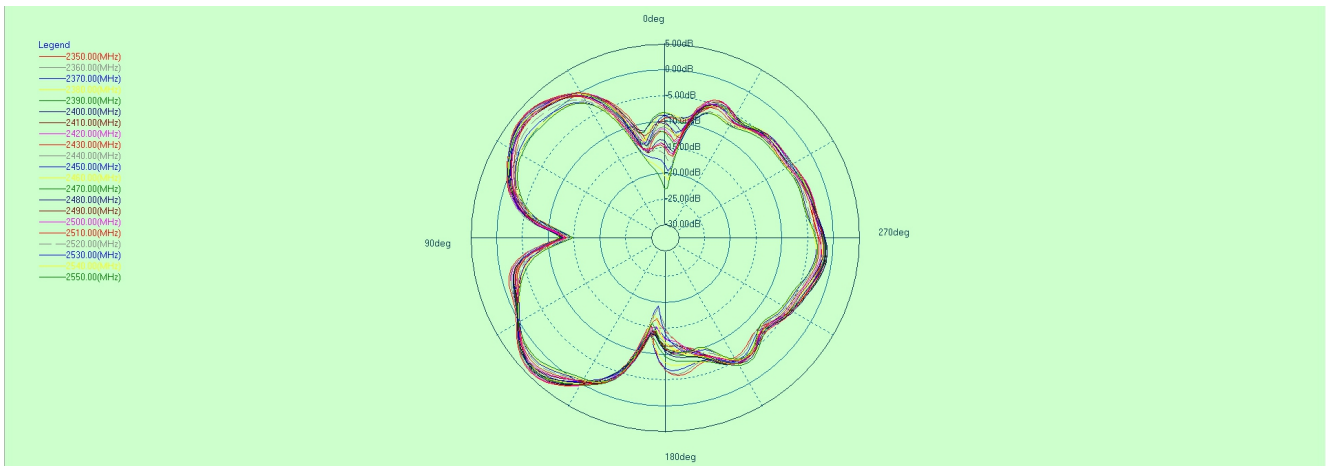


Figure 6: $\Phi=90^\circ$

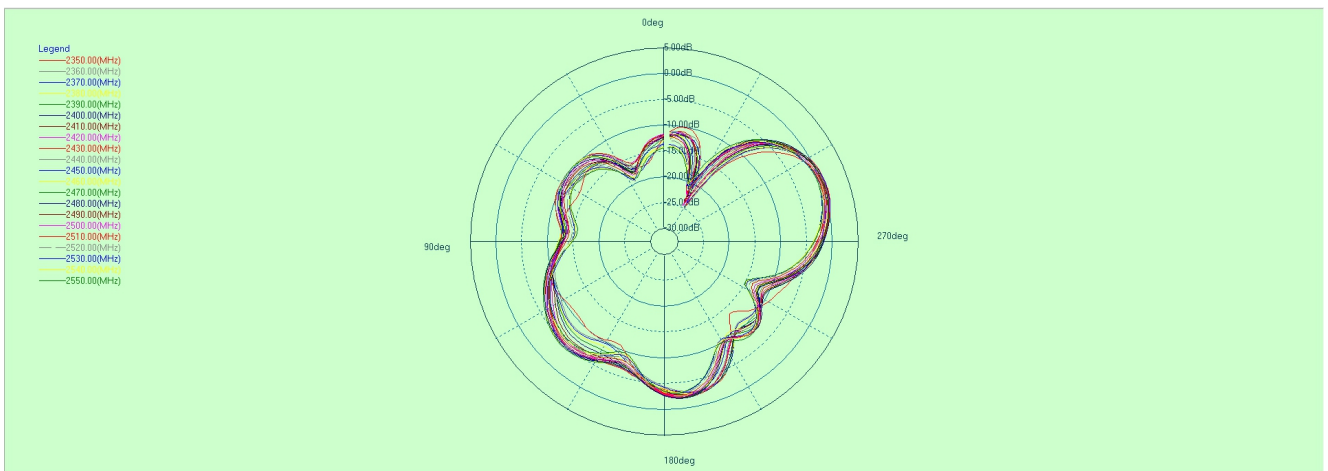


Figure 7: $\Phi=0^\circ$

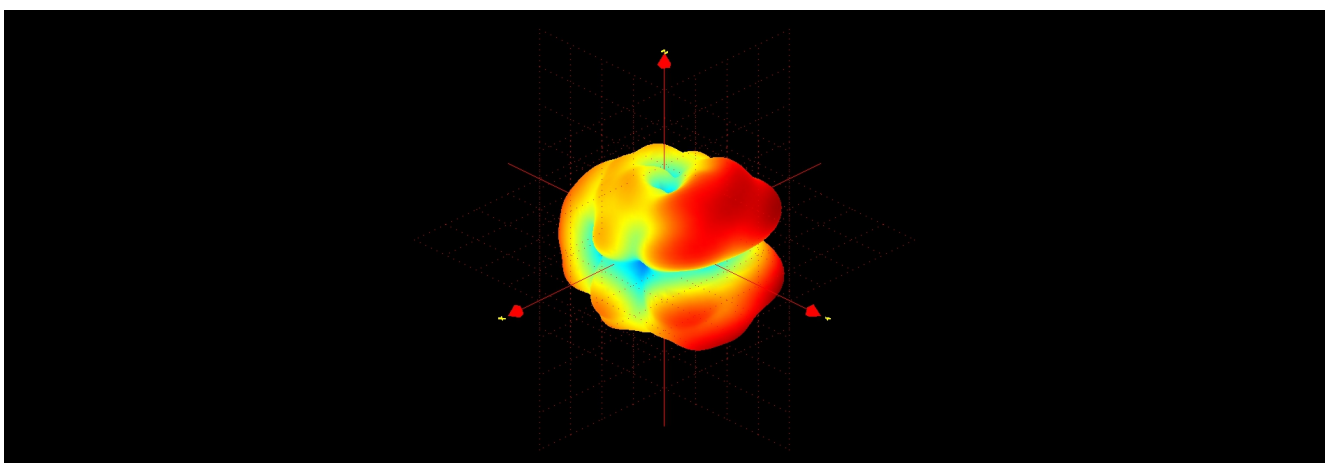


Figure 7: 3D model

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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.

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