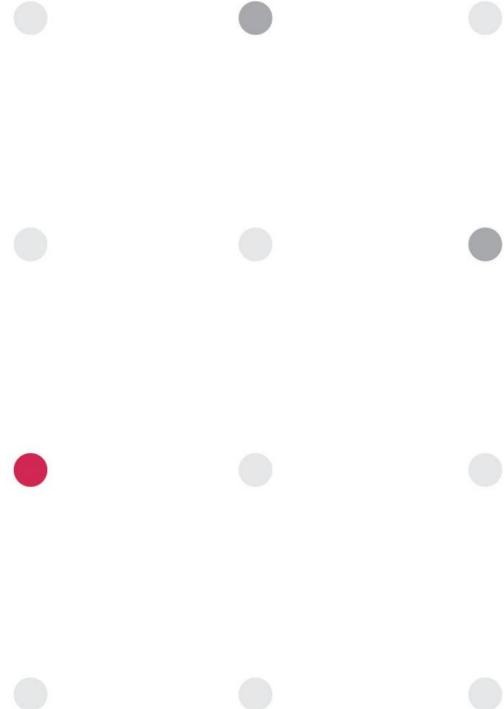


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INPAQ TECHNOLOGY CO., LTD.



Smart Ring (US 10)

Presented by

Zheng Chong

2025/04/24

Version	Date	Description	Author
V01	2025/04/24	New Release	Zheng Chong

OUTLINE

1. Measurement Information

1.1 Experimental Setup

1.2 Antenna Solution Detail

2. Antenna Characteristics

2.1 S-Parameter

2.2 Antenna Efficiency and Peak Gain

2.3 3 views of antenna & 2D Radiation Patterns

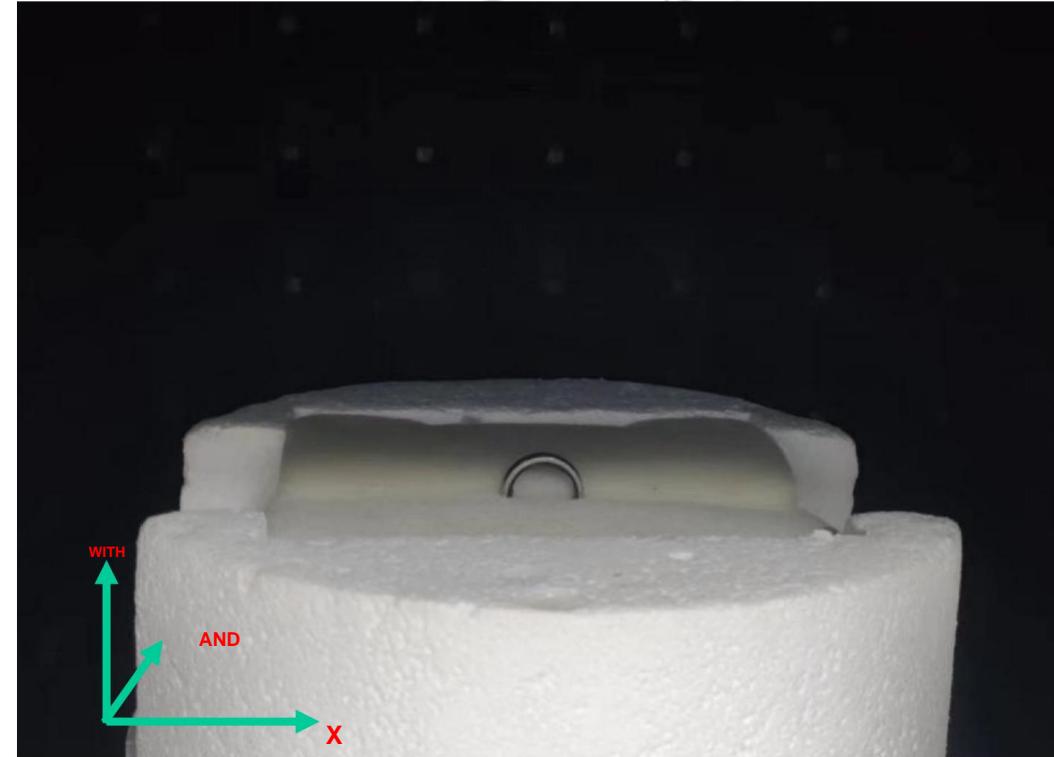
2.4 3D Radiation Patterns

3. Summary

1. Measurement Information

Free Space

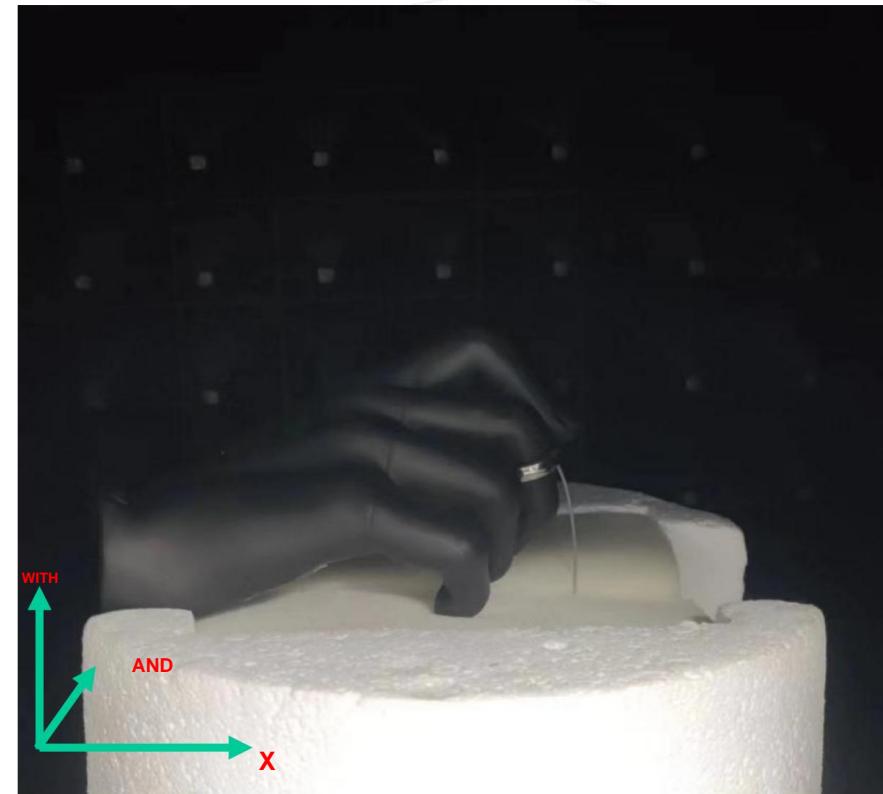
1.1 Experimental Setup



1. Measurement Information

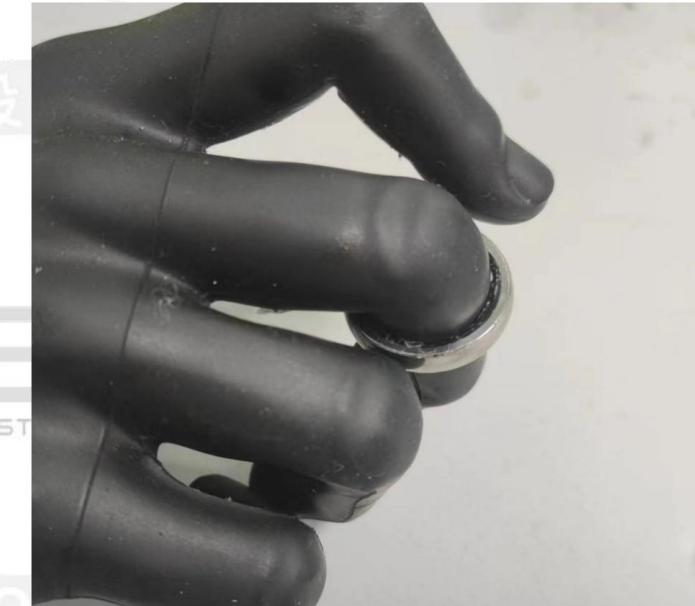
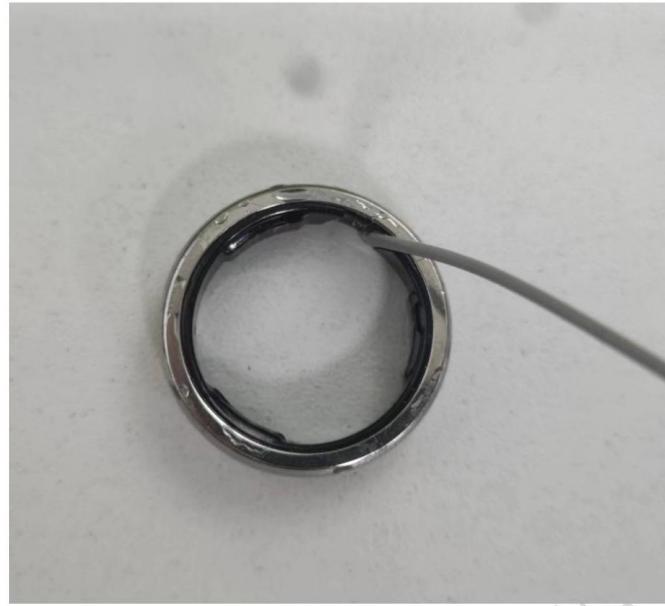
Hand Model

1.1 Experimental Setup



1. Measurement Information

1.2 Antenna Solution Detail



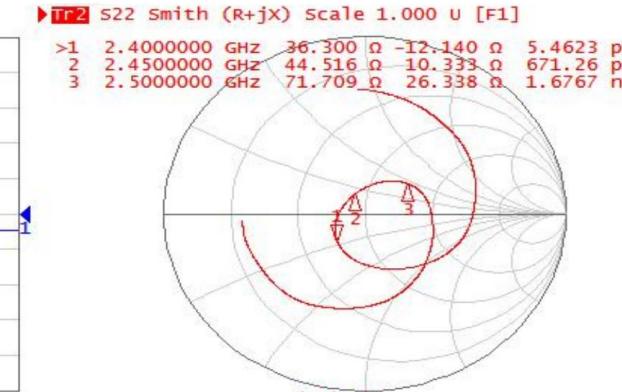
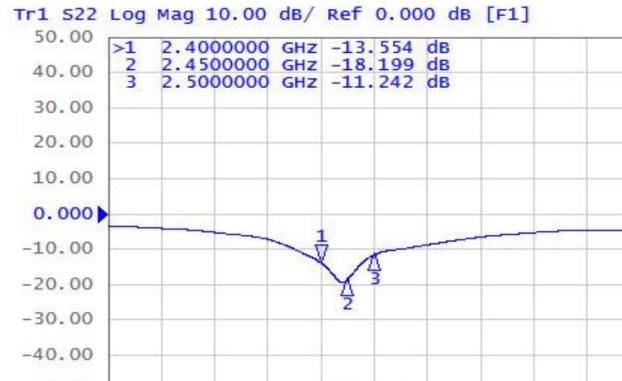
Shell diameter: 25.8mm Metal

shell antenna, use internal screws to fix the motherboard and the outer frame

2. Antenna Characteristics

Free Space

2.1 S-Parameter



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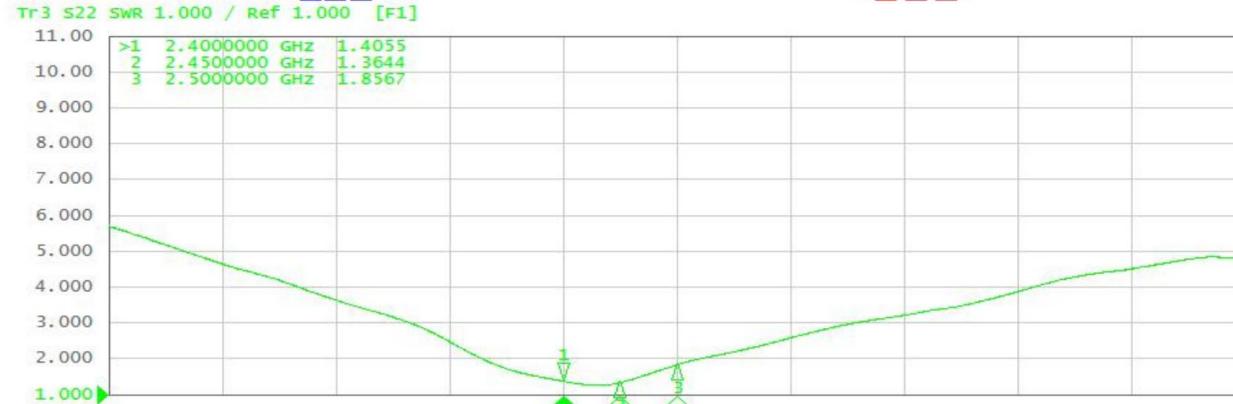
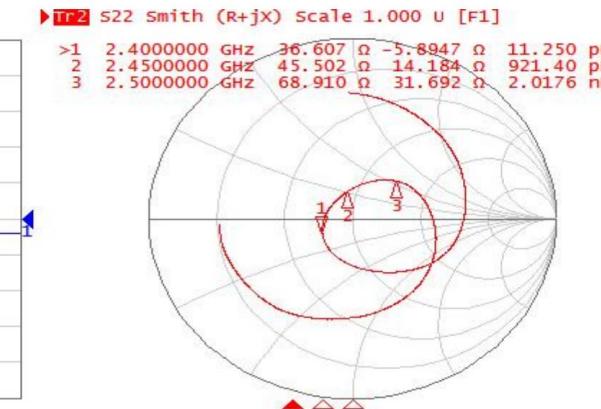
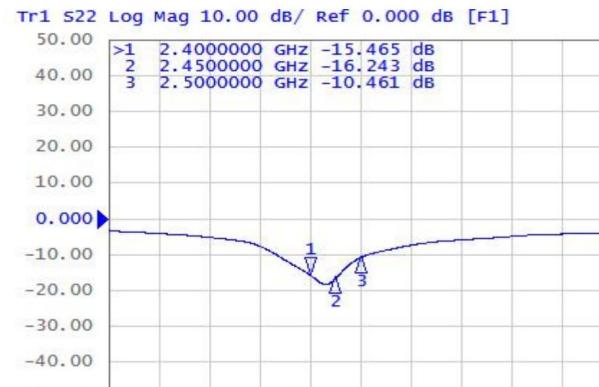
WE CONNECT WE PROTECT

PSA

2. Antenna Characteristics

Hand Model

2.1 S-Parameter



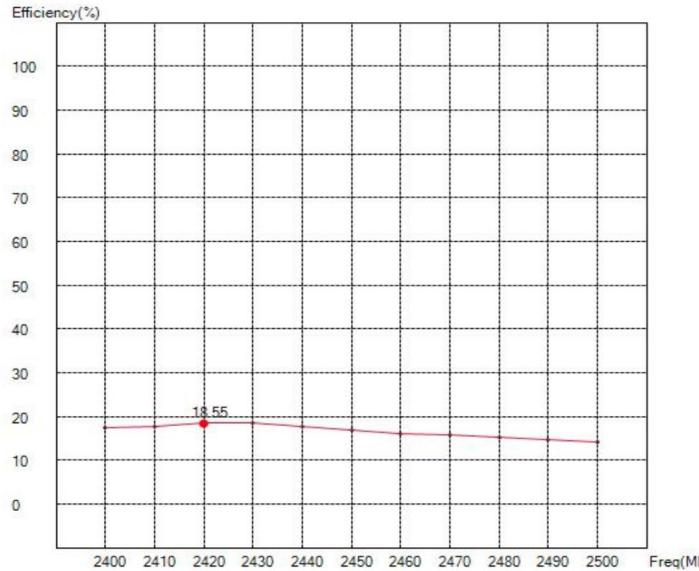
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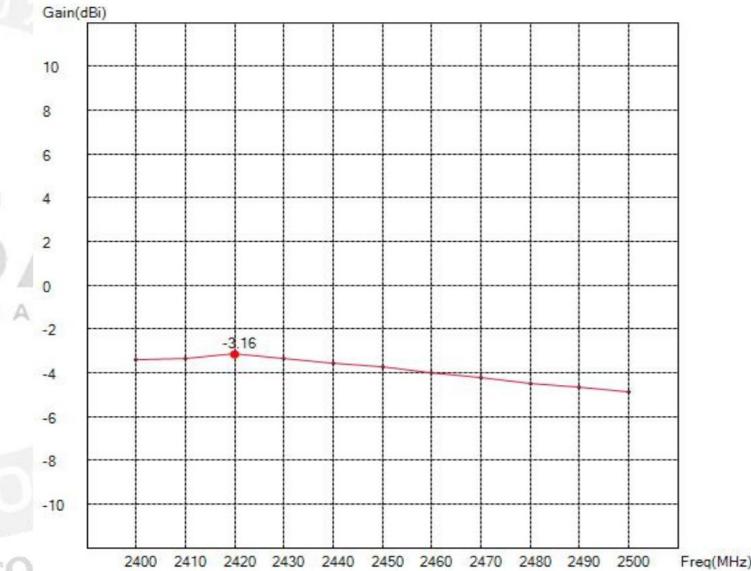
2. Antenna Characteristics

Free Space

2.2 Antenna Efficiency and Peak Gain



Maximum Efficiency at 2420MHz : 18.55%

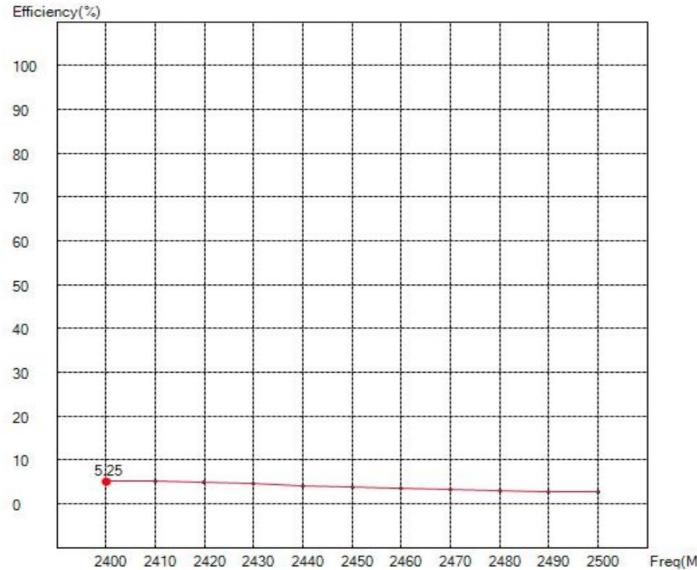


Maximum Peak Gain at 2420MHz :-3.16 dBi

2. Antenna Characteristics

Hand Model

2.2 Antenna Efficiency and Peak Gain



Maximum Efficiency at 2400MHz : 5.25%



Maximum Peak Gain at 2400MHz : -5.3 dBi

2. Antenna Characteristics

2.2 Antenna Efficiency and Peak Gain

Frequency (GHz)	ANT(Free Space)		ANT(Hand Model)	
	Efficiency (%)	Peak gain (dBi)	Efficiency (%)	Peak gain (dBi)
2.4	17.38	-3.41	5.25	-5.99
2.45	16.87	-3.76	3.84	-7.43
2.5	14.10	-4.88	2.60	-9.15

2. Antenna Characteristics

Free Space

2.3 3 views of antenna

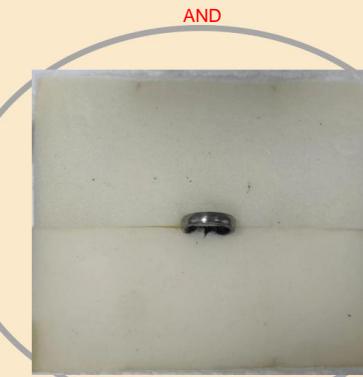
X-Z plane



Y-Z plane



X-Y plane



2. Antenna Characteristics

Hand Model

2.3 3 views of antenna

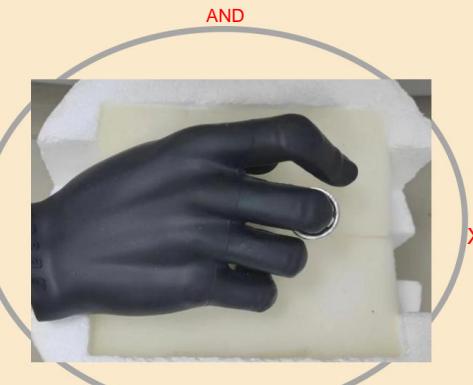
X-Z plane



Y-Z plane

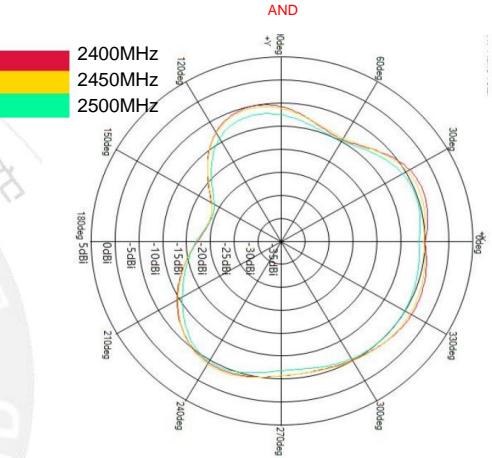
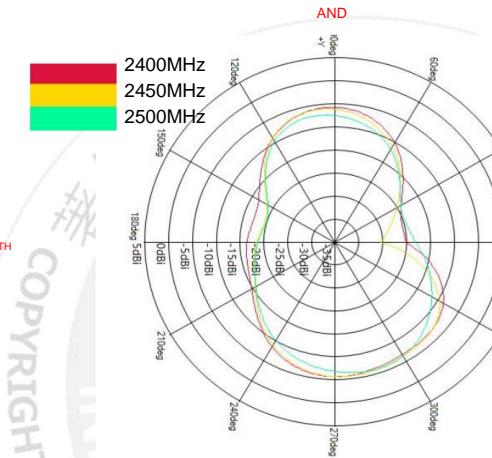
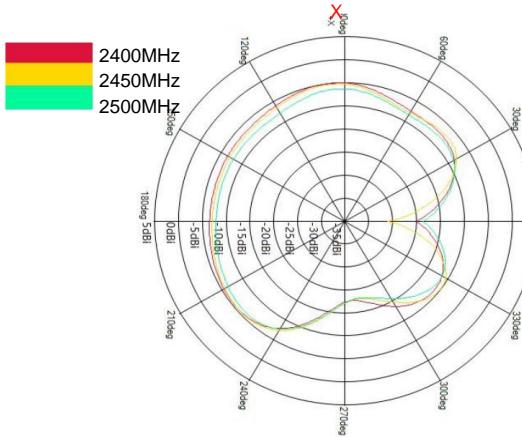


X-Y plane



2. Antenna Characteristics

2.3 2D Radiation Patterns

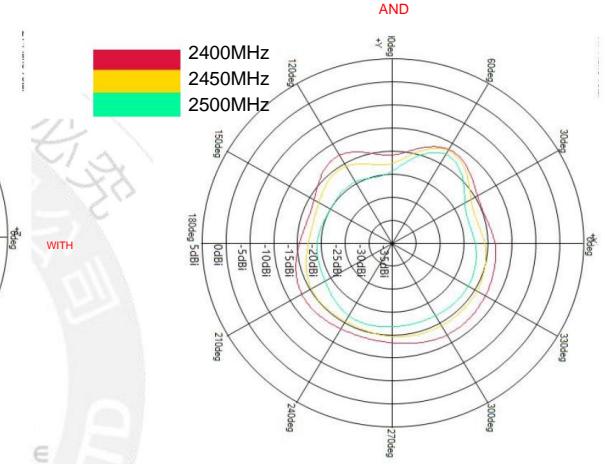
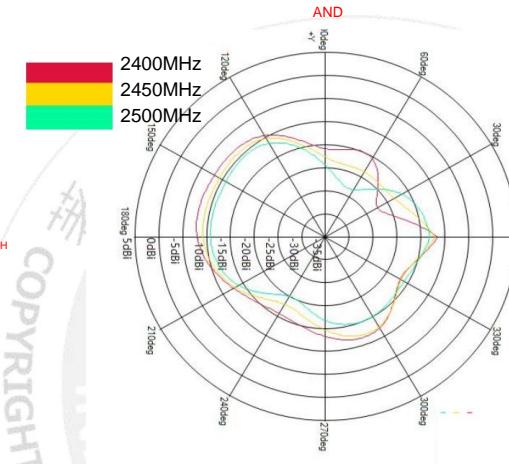
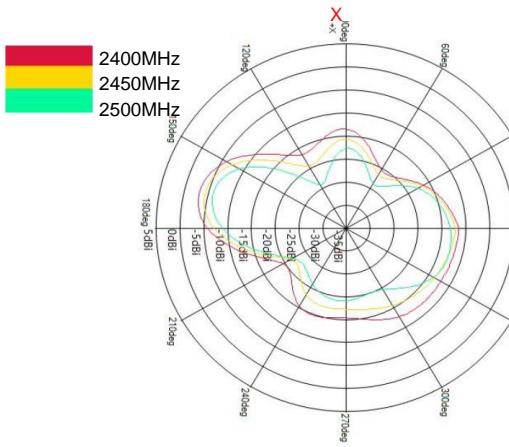


Free Space

	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]
2400	-4.89	-8.73	-5.66	-9.27	-3.41	-6.33
2450	-5.19	-8.87	-5.84	-9.56	-3.76	-6.48
2500	-6.18	-9.60	-6.43	-10.34	-4.88	-7.47

2. Antenna Characteristics

2.3 2D Radiation Patterns



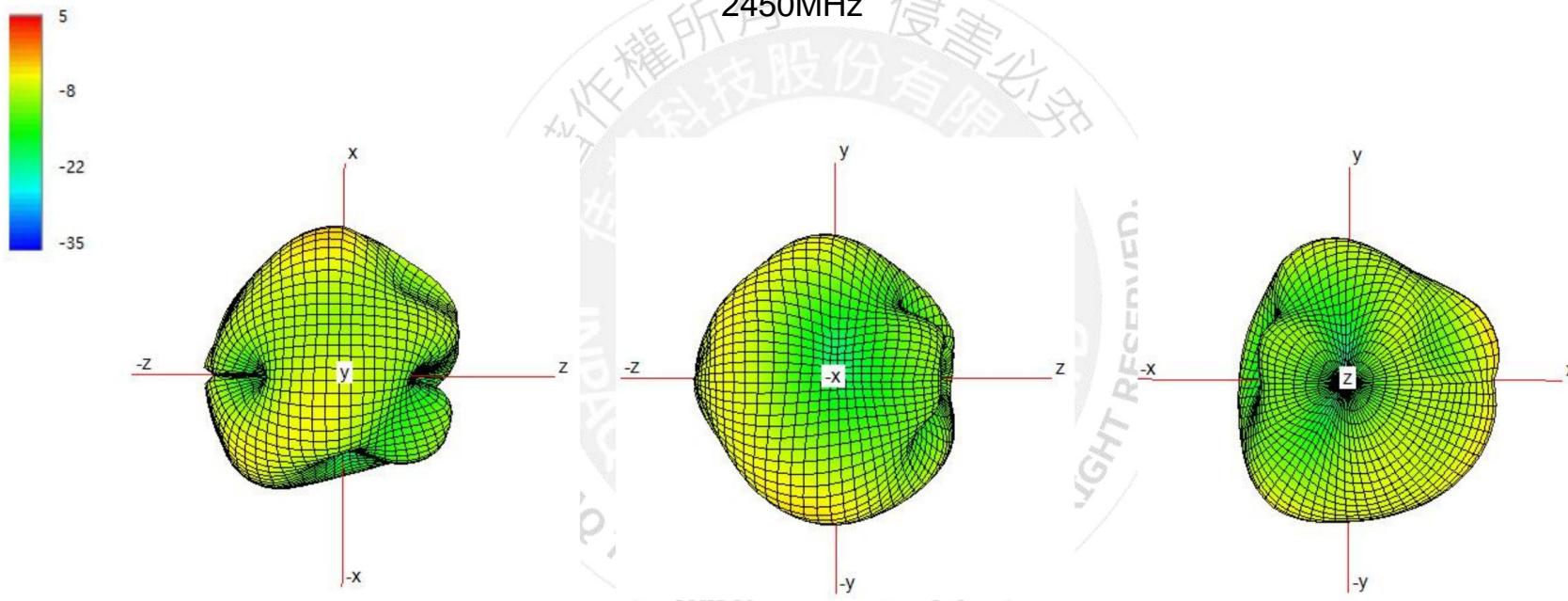
Hand Model

	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]
2400	-5.99	-14.07	-8.20	-13.21	-11.36	-13.44
2450	-7.34	-15.58	-9.45	-13.96	-11.65	-15.16
2500	-9.15	-17.02	-11.00	-15.14	-12.62	-17.15

2. Antenna Characteristics

Free Space

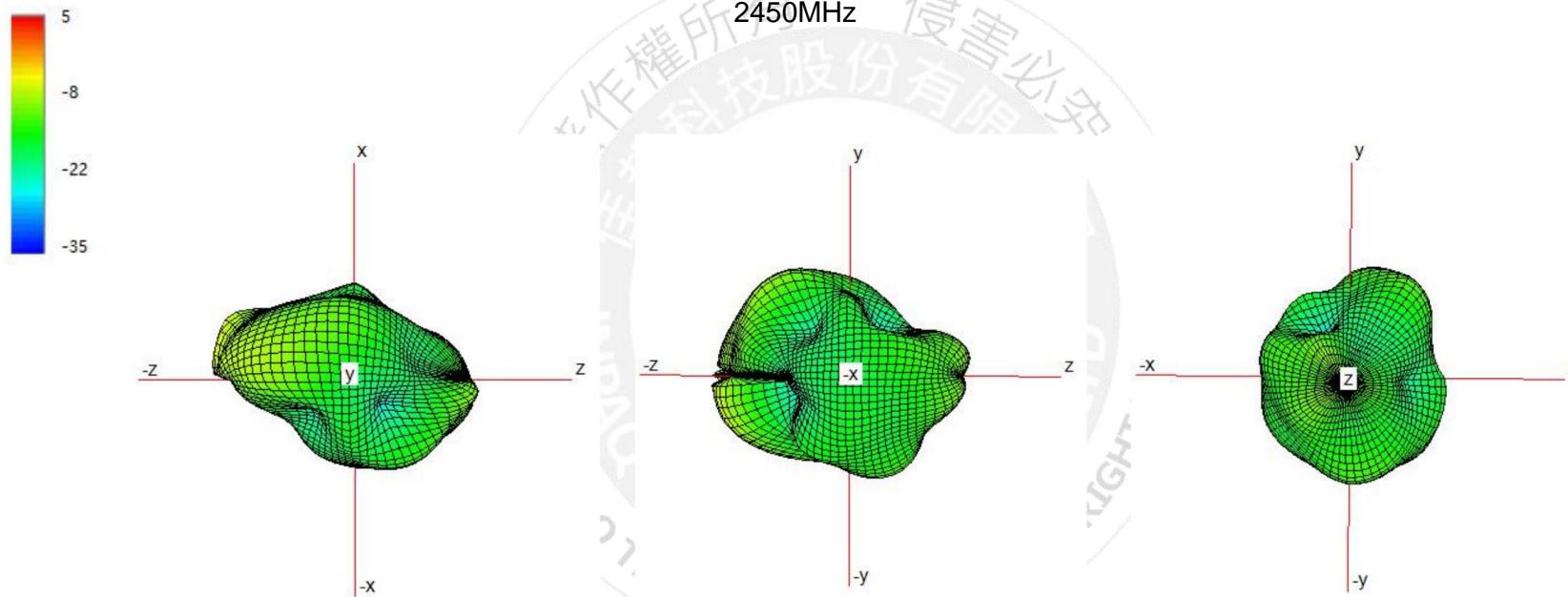
2.4 3D Radiation Patterns



2. Antenna Characteristics

Hand Model

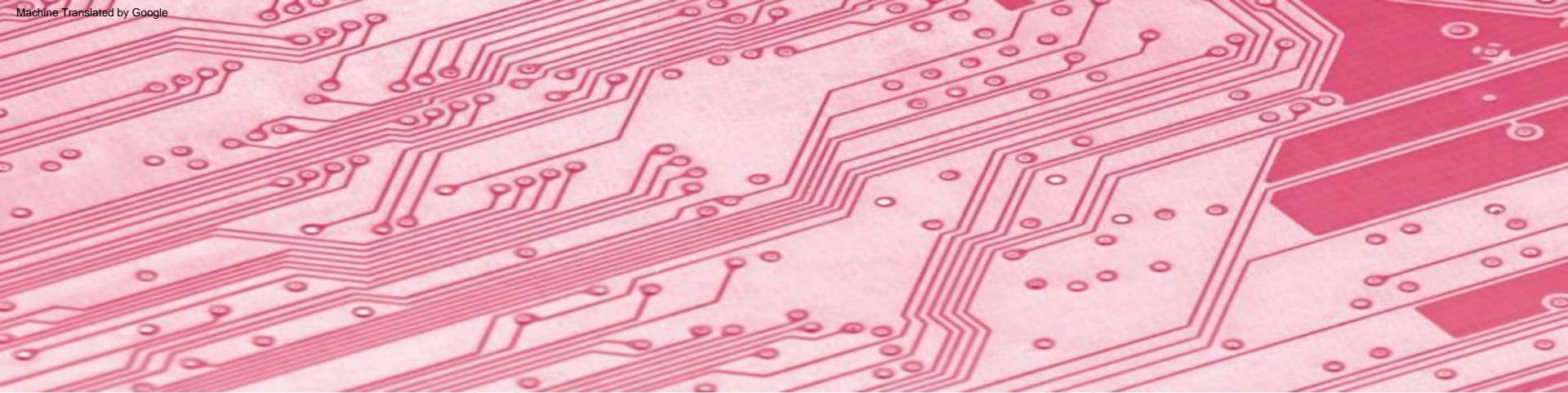
2.4 3D Radiation Patterns



3. Summary

- The performance of antennas is shown in table

	ANT(free space)	ANT(hand model)
Maximum Efficiency (%)	18.55	5.25
Maximum Gain (dBi)	-3.16	-5.99



Title for Image (above image could be replaced)

Content Details

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