



MHF Rev.B Antenna datasheet

12/07/2023 -update

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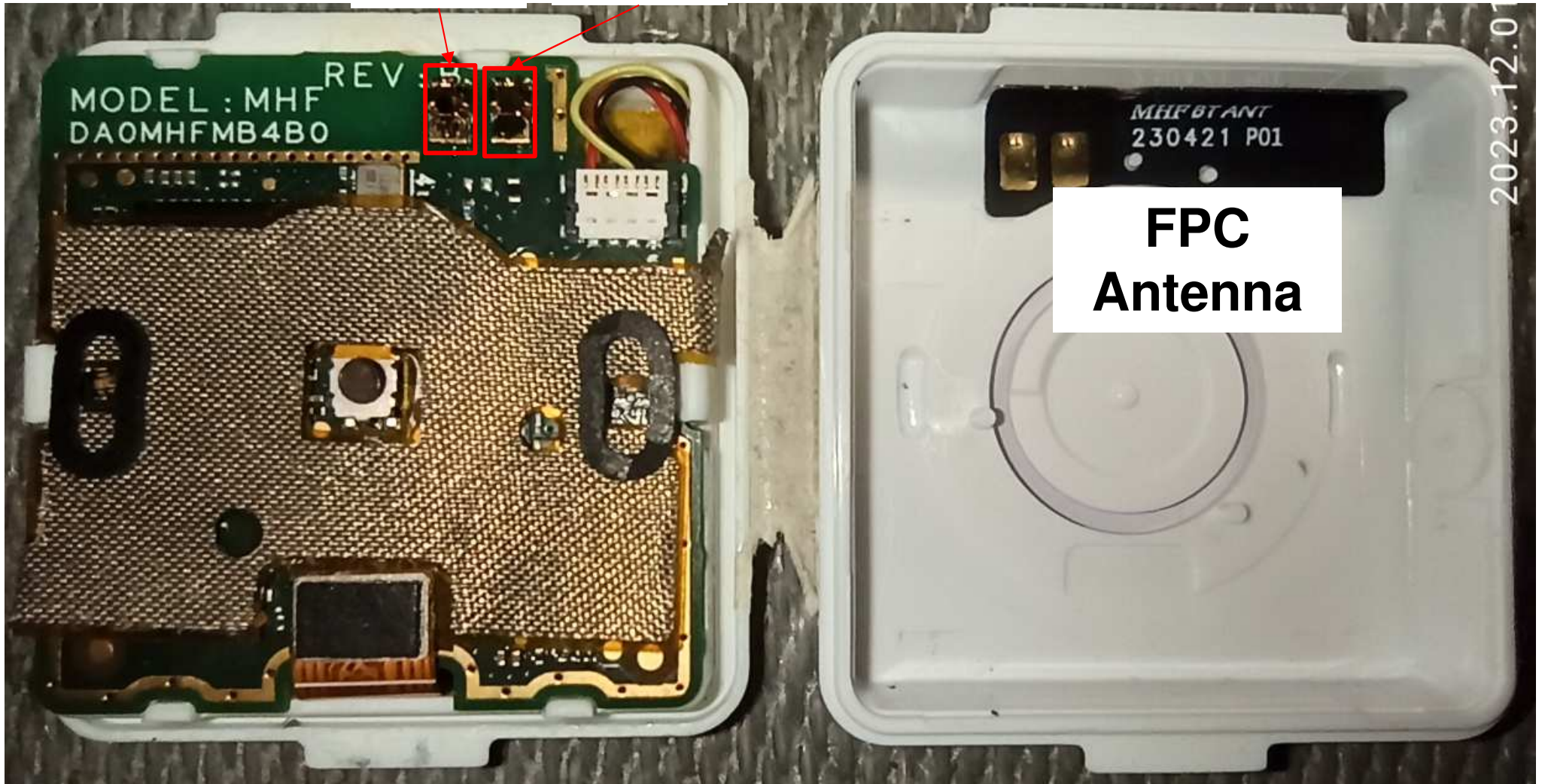
Antenna manufacture information

天線應用 / Antenna application	Bluetooth antenna
型式 / Antenna type	FPC antenna
廠牌 / Brand	Quanta
型號 / Model	MHF_BT_Antenna (P/N: DQ602676300)_
天線製造商 / Manufacturer	YAGEO 國巨 (P/N:TZ26763)
國巨接單委託生產製造商 / YAGEO Supplier vendor	新加坡普思
工廠名稱/ Supplier Factory	Pulse (Suzhou) Wireless Product Co., Ltd.
工廠地址 / Supplier Factory address	No. 99 Huo Ju Road, Suzhou New District Jiangsu Province, suzhou 215009, P.R. China 江蘇省蘇州市虎丘區火炬路99號



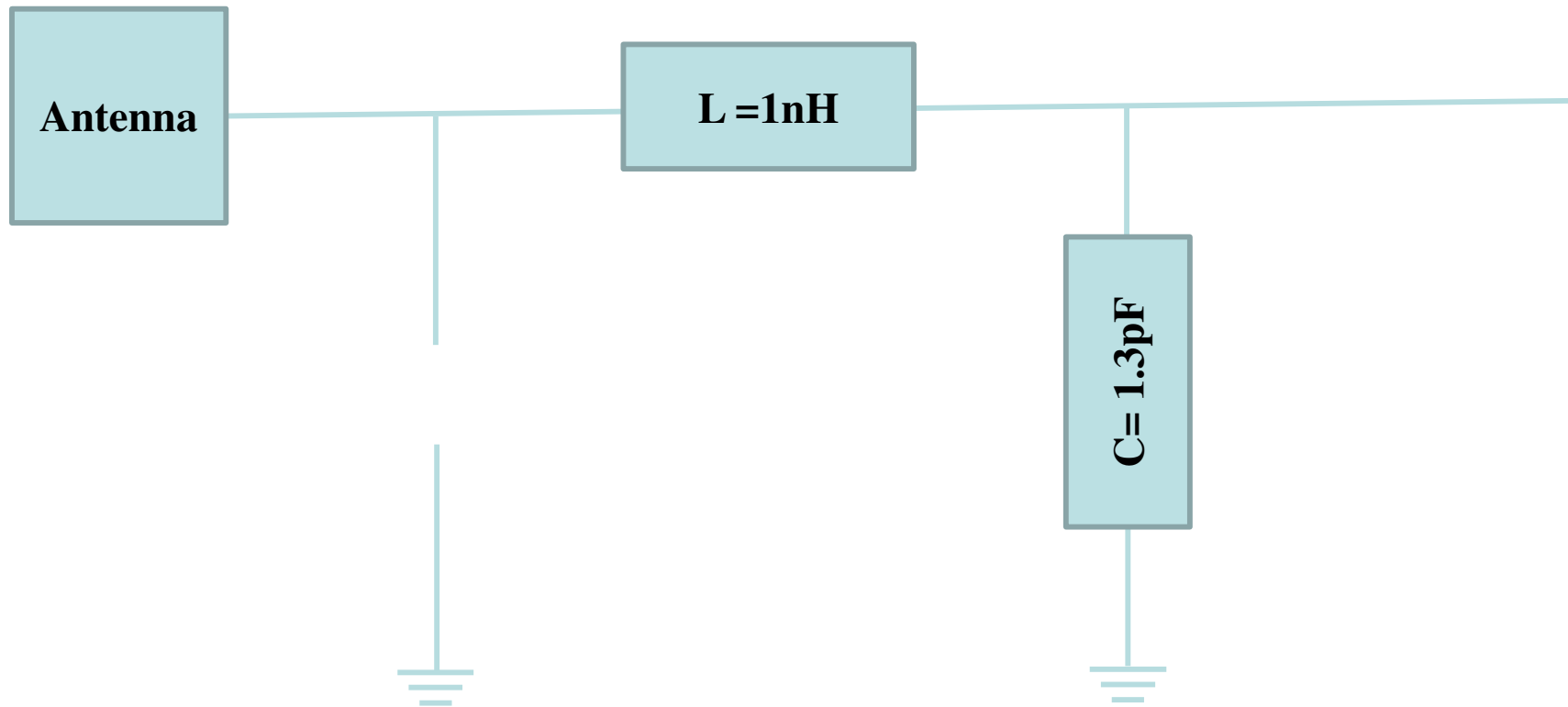
EUT Antenna Placement introduction

Feed **GND**





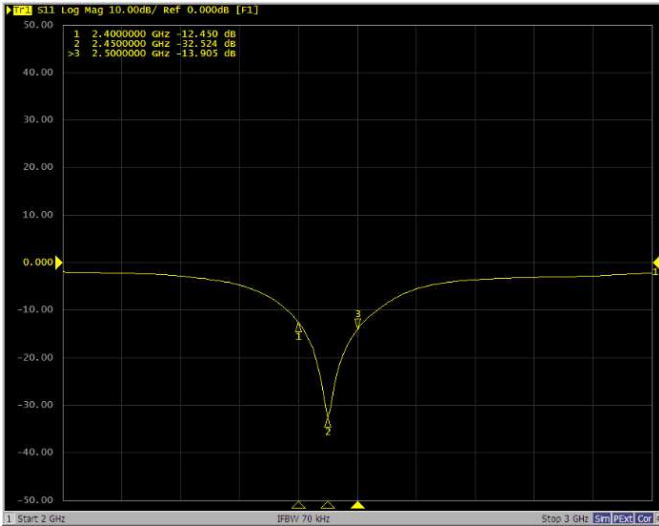
π type structure for antenna match circuitry



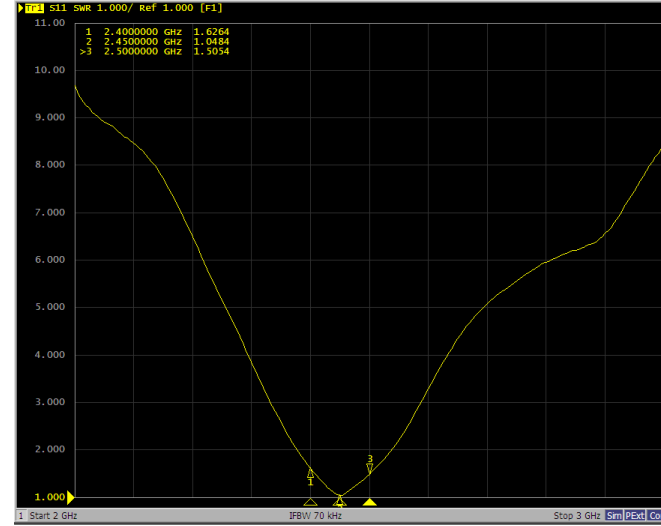


Antenna Impedance Measurement and Matching

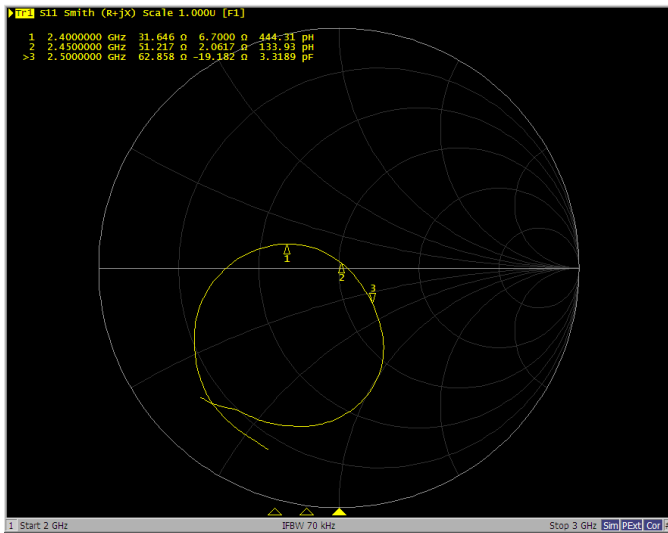
-On hand (Matching & tune antenna)



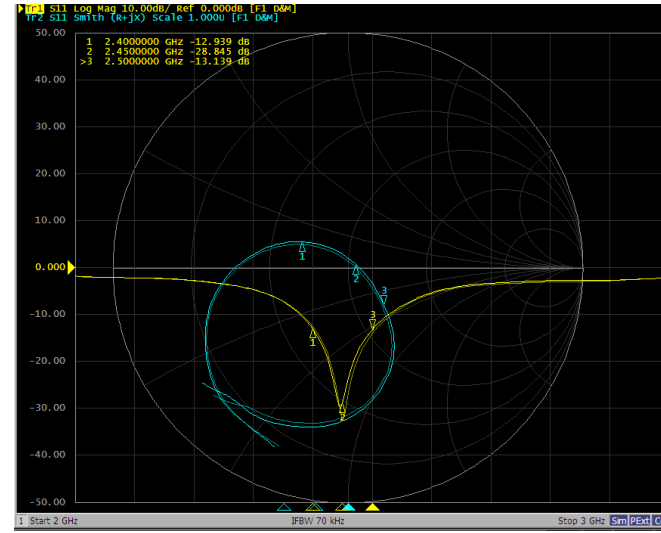
-S11 (Return loss)



-VSWR



-Smith Chart



-S11 & Smith Chart

- ◆ Test Location

- Quanta Computer Inc. internal ets-lindgren 3D antenna chamber

- Address: No.211, Wenhua 2nd Rd., Guishan Dist., Taoyuan City 33377, Taiwan (R.O.C.)

- ◆ Tester: Mark Lee

- ◆ Software test tool: EMQuest

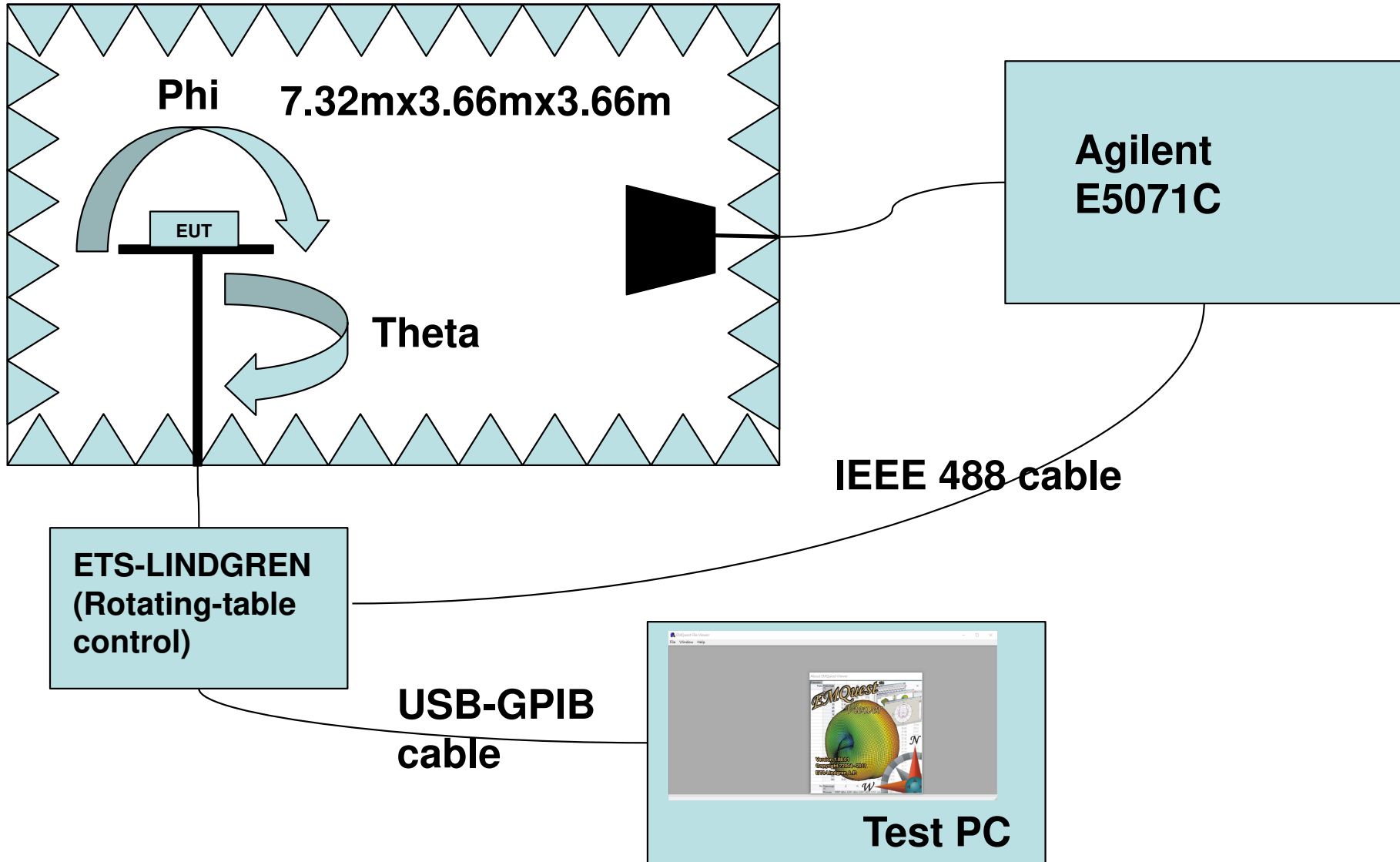
- ◆ Test data:10/20/2022

- ◆ Measurement method: According to IEEE 149 (2021)

- ◆ Test setup: as below page10 and page11

Test block diagram

ETS-LINDGREN antenna chamber



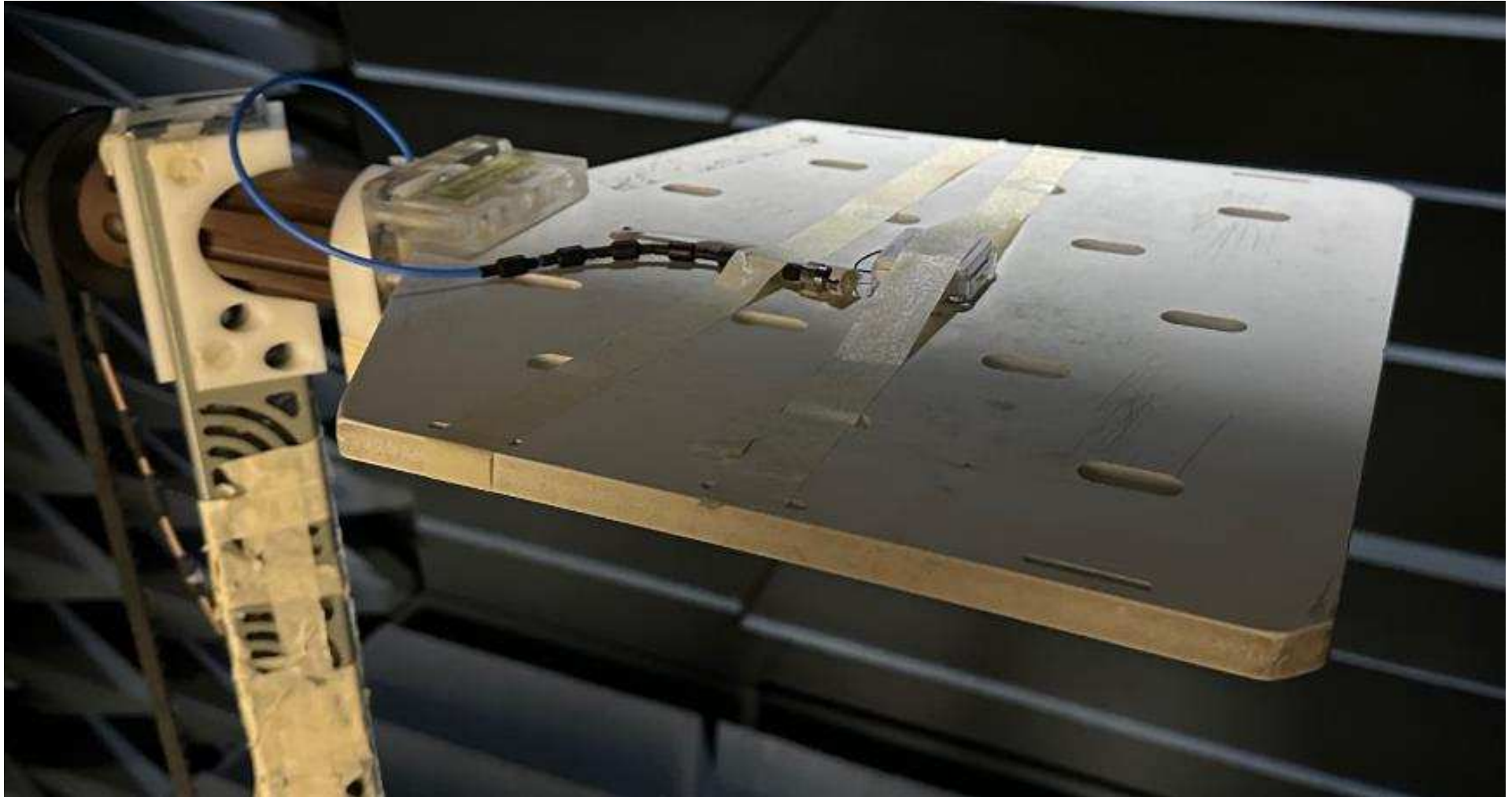
Test Equipment list

Equipment type	Model	Remark
ENA Series Network analyzer	Agilent E5071C	100KHz~8.5GHZ
Rotating table control	ETS-LINDGREN EMC Center TM	
Chamber	ETS-LINDGREN AMS8500	700MHz~6GHz
Horn Antenna	ETS-LINDGREN 6164-04	700MHz~6GHz
USB-GPIB cable	NI	
IEEE 488 cable	NI	



EUT Setup Photograph

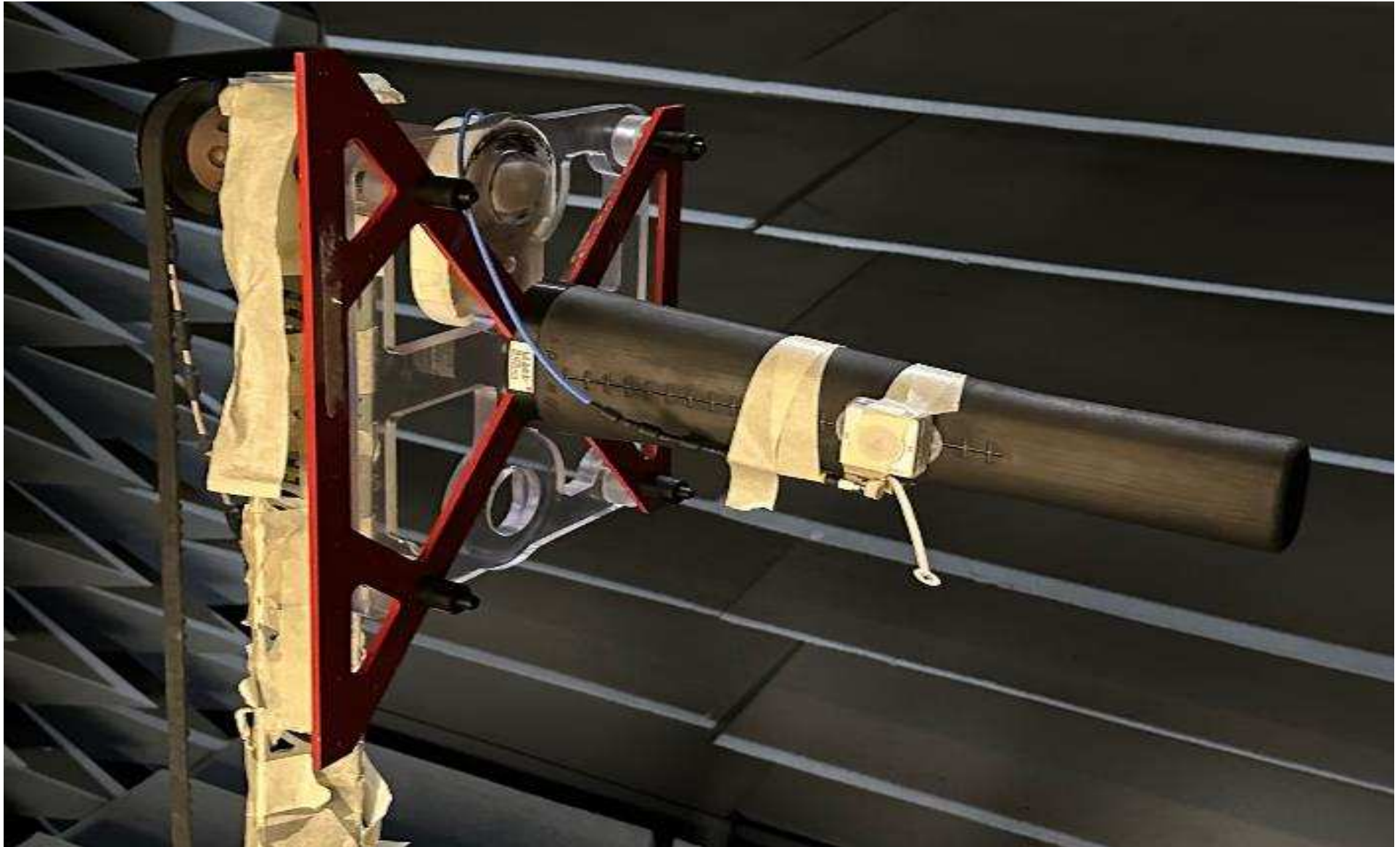
-Free space





EUT Setup Photograph

-On Hand





2.4GHz Antenna Performance/Efficiency

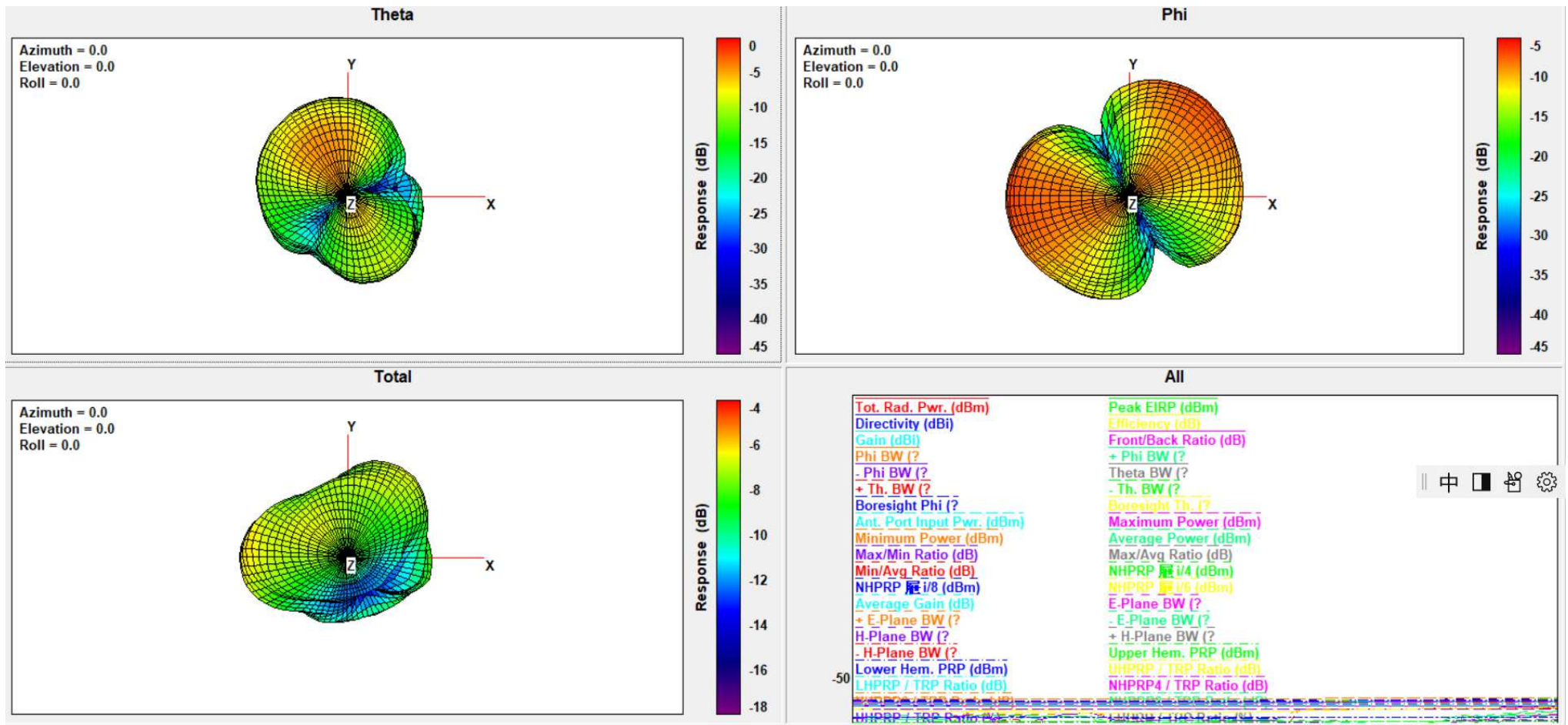
	MHF				
		Free space		On-hand	
		Average gain(dBi)	Peak Gain(dBi)	Average gain(dBi)	Peak Gain(dBi)
Efficiency	2402	-6.58148	-2.83173	-8.77138	-4.40778
	2412	-6.54832	-2.88231	-8.47450	-4.26513
	2420	-6.52862	-2.85236	-8.27368	-3.99368
	2430	-6.50088	-2.86710	-8.28350	-3.90295
	2441	-6.51233	-2.84768	-8.24034	-3.70828
	2450	-6.42820	-2.67964	-8.16220	-3.65736
	2460	-6.40129	-2.61658	-8.15185	-3.60085
	2472	-6.62828	-2.65832	-8.42323	-3.60735
	2480	-6.90220	-2.83057	-8.68389	-3.88364
	2490	-6.64774	-2.46078	-8.84741	-3.90176
	2500	-7.00803	-2.69971	-9.29640	-4.11920

-with ME's housing

3D Antenna Pattern

-Free space (2.402GHz)

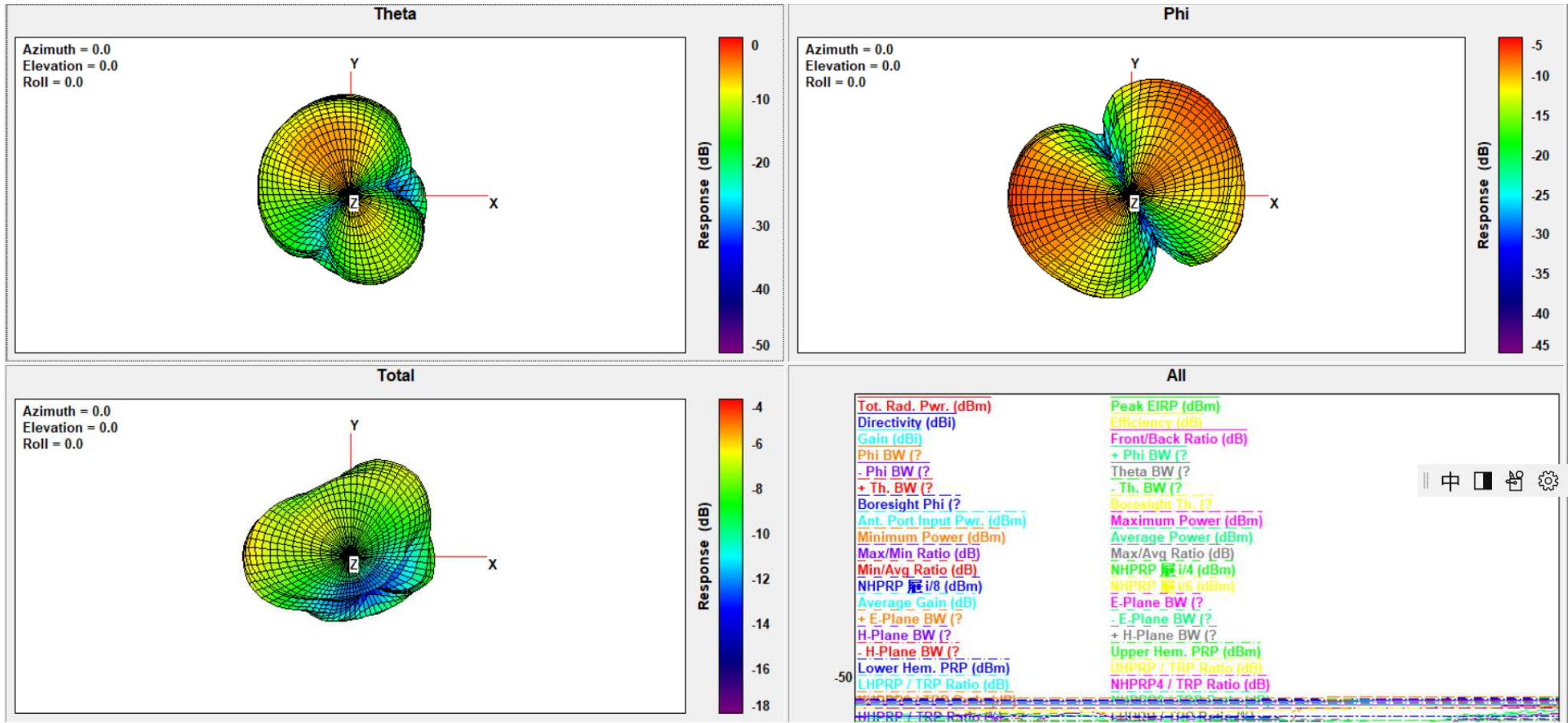
- ◆ 2.402GHz antenna pattern
- ◆ -Free space



3D Antenna Pattern

-Free space (2.441GHz)

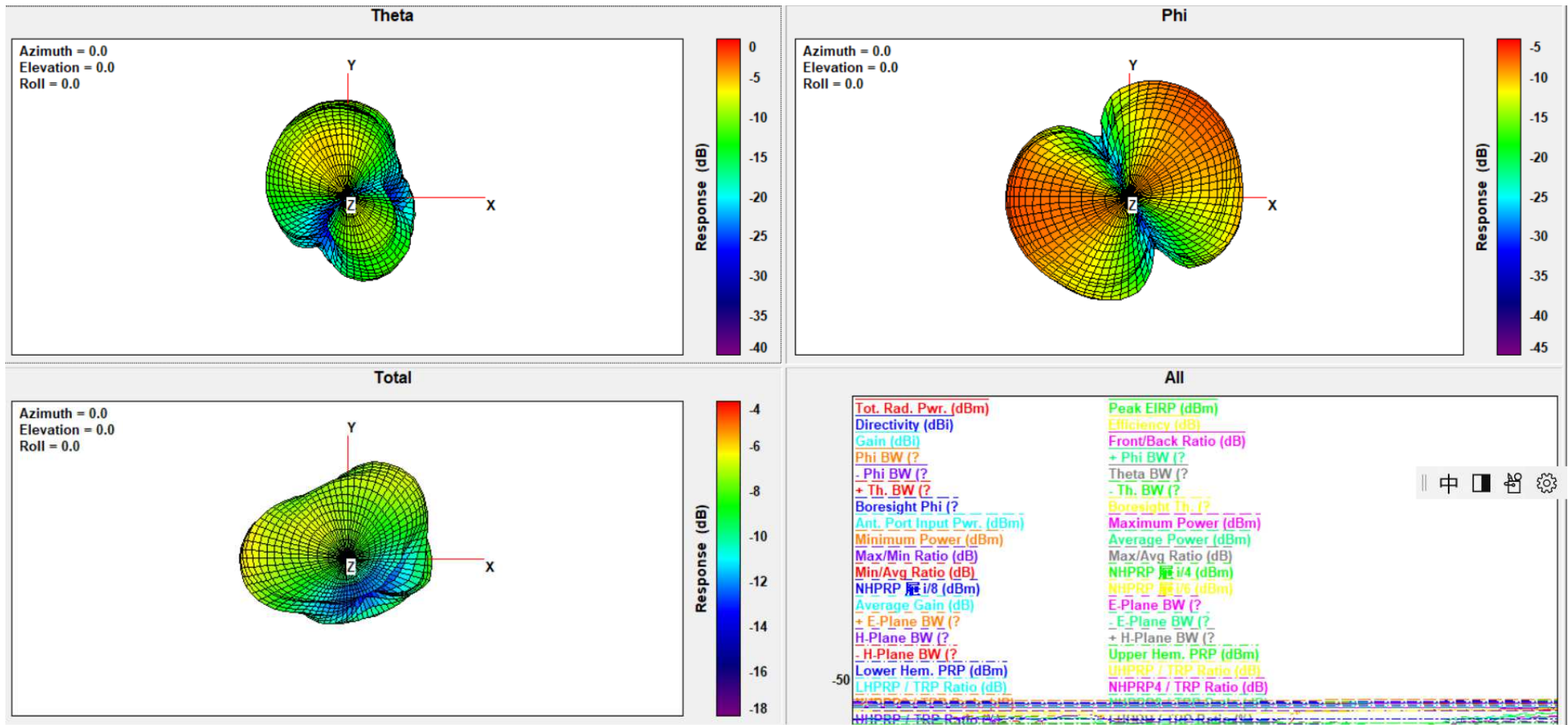
- ◆ 2.441GHz antenna pattern
- ◆ -Free space



3D Antenna Pattern

-Free space (2.480GHz)

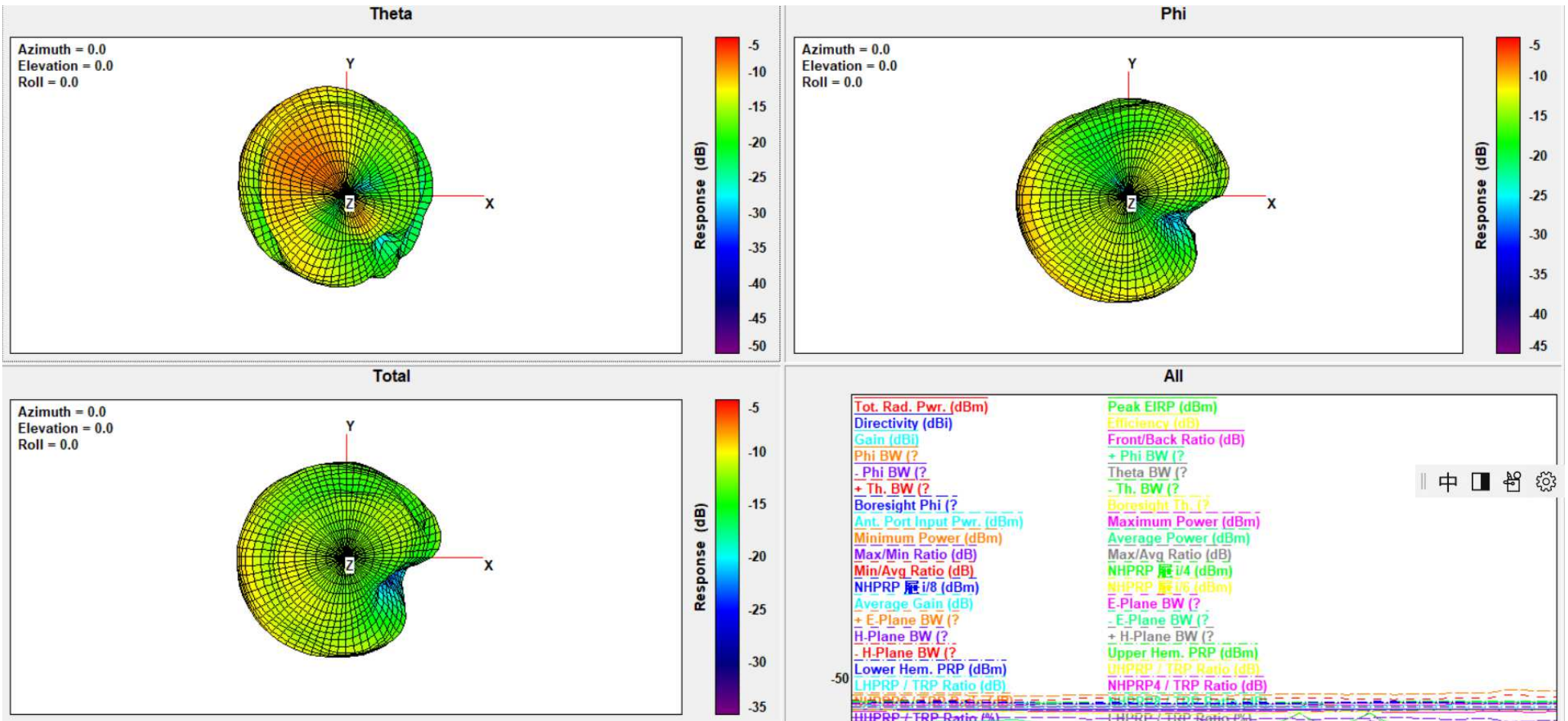
- ◆ 2.480GHz antenna pattern
- ◆ -Free space



3D Antenna Pattern

-On hand(2.402GHz)

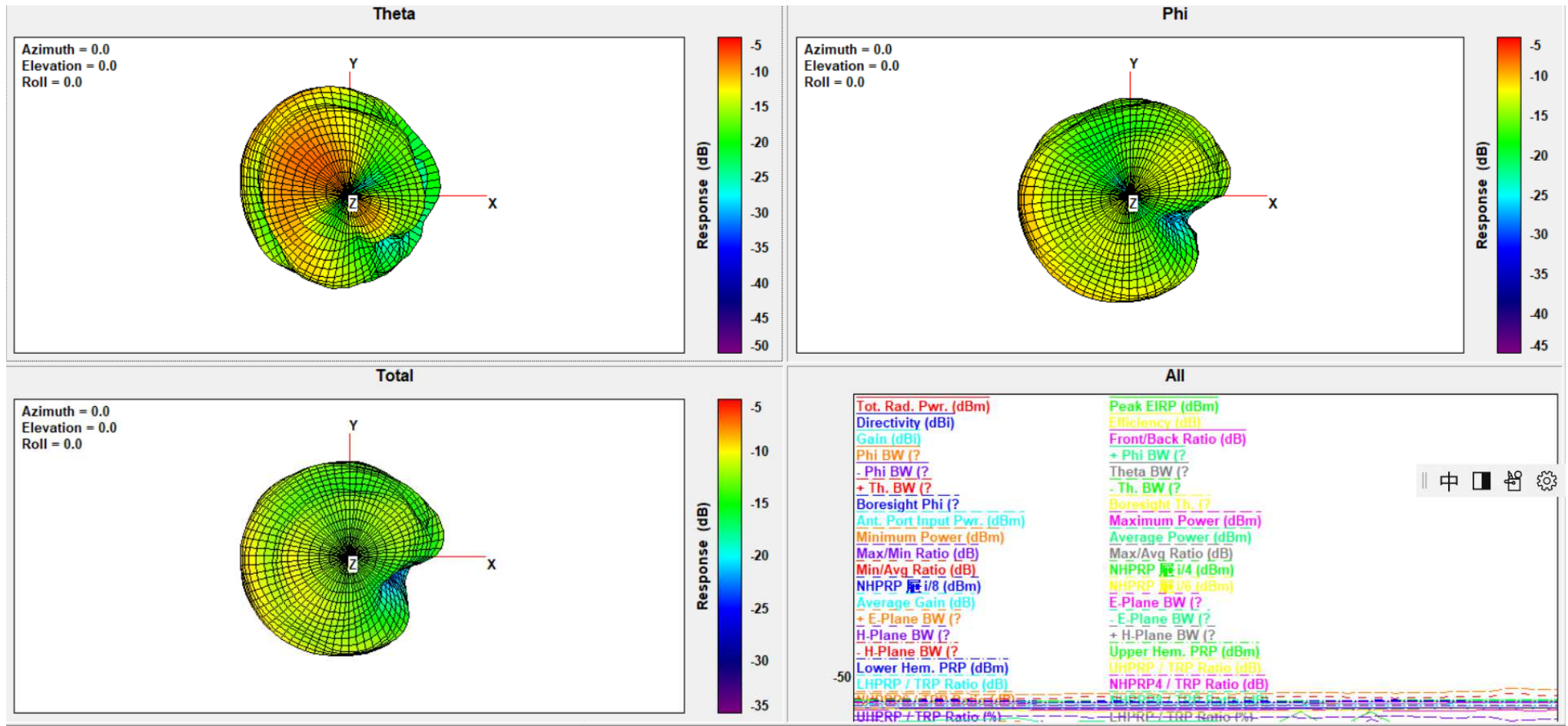
- ◆ 2.402GHz antenna pattern
- ◆ -On hand



3D Antenna Pattern

-On hand(2.441GHz)

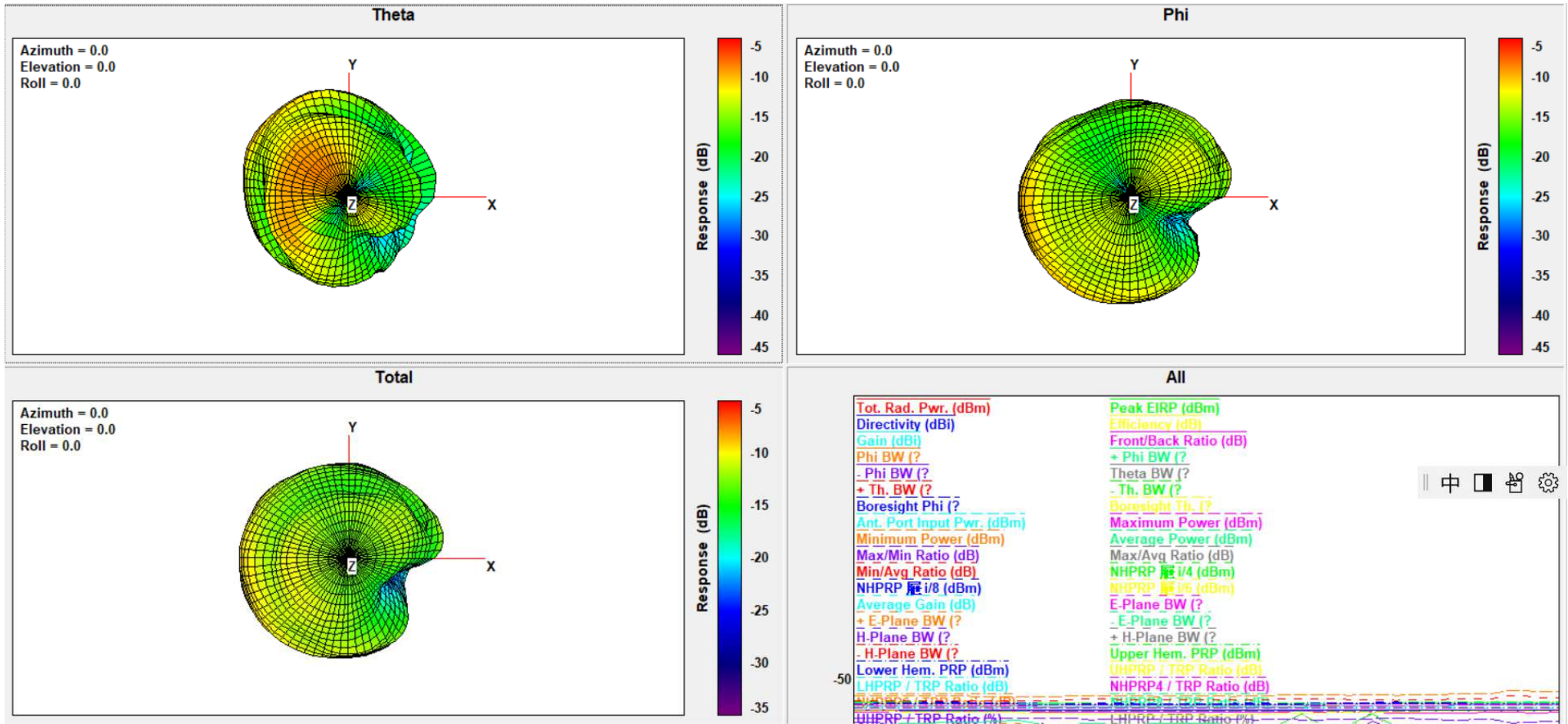
- ◆ 2.441GHz antenna pattern
- ◆ -On hand



3D Antenna Pattern

-On hand(2.480GHz)

- ◆ 2.480GHz antenna pattern
- ◆ -On hand





Antenna design outline

