

# MBE001 Antenna Specification

DSGN	CHK	APVD
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Feb/09/23	Feb/09/23	Feb/09/23

- Manufacturer : Foster Electric Company, Limited
- H.Q. Address : 1-1-109, Tsutsujigaoka, Akishima City, Tokyo, 196-8550, Japan
- Model Name : MBE001
- Frequency Range : 2402MHz~2480MHz
- Antenna Type : Monopole Antenna (FPC pattern Antenna)
- Connector Type : X.FL
- Cable length : No cable
- Cable Loss : – dB

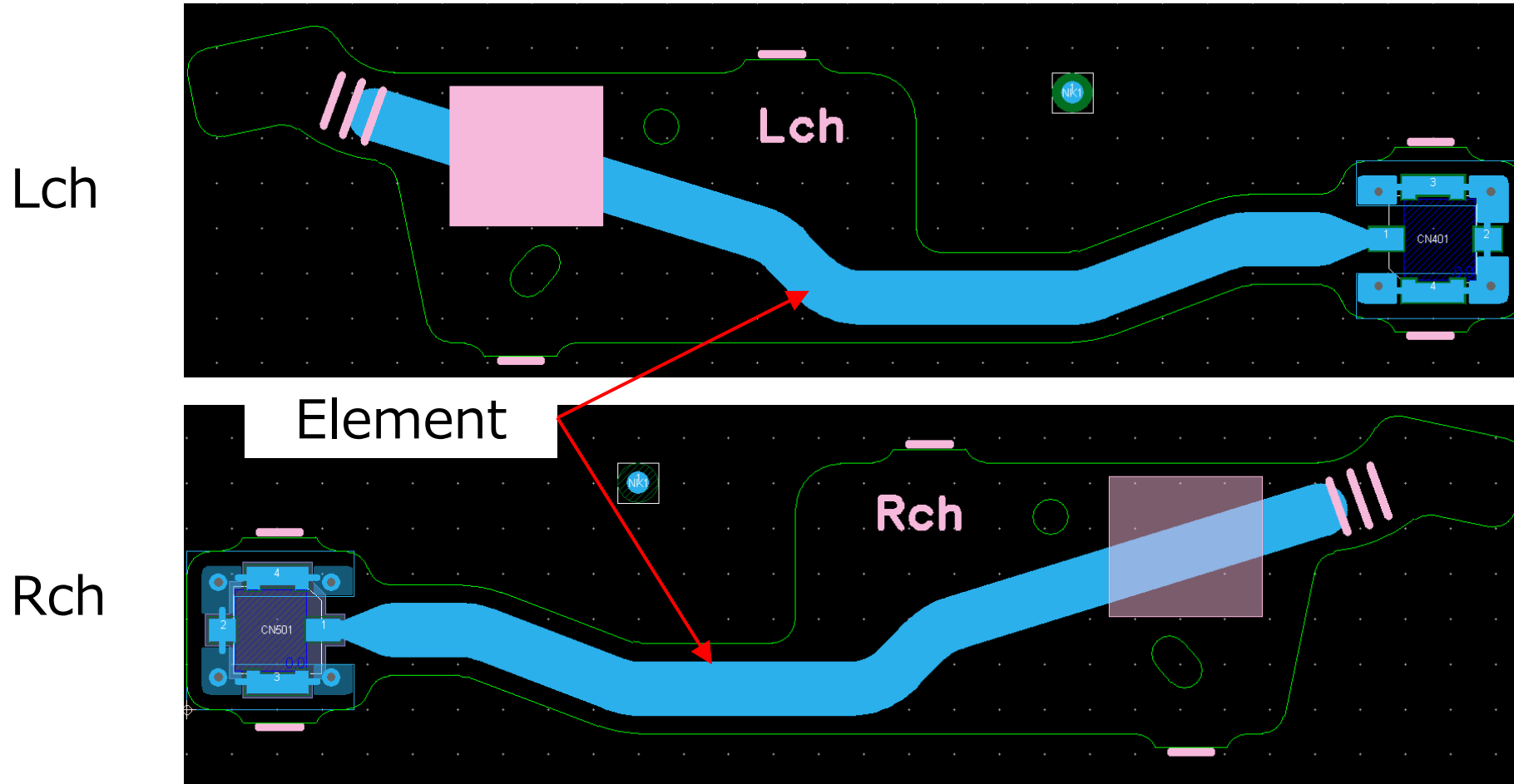
- Antenna Gain :  
Lch -1.8dBi / Rch -1.6dBi ※Application value : below -1.6dBi  
※Refer to p5~p10
- Test Date : 9/29/2022
- Test PIC : Seigo Sakurai / Takahiko Ishikura
- Instruments : Network analyzer E-5071C\_Keysight  
(Latest Calibration date : 12/16/2021)
- Test System Name :  
ETS-LINDGREN EMQuest Antenna measurement site
- Test Photo : Refer to p8、 p10

# Antenna Shape

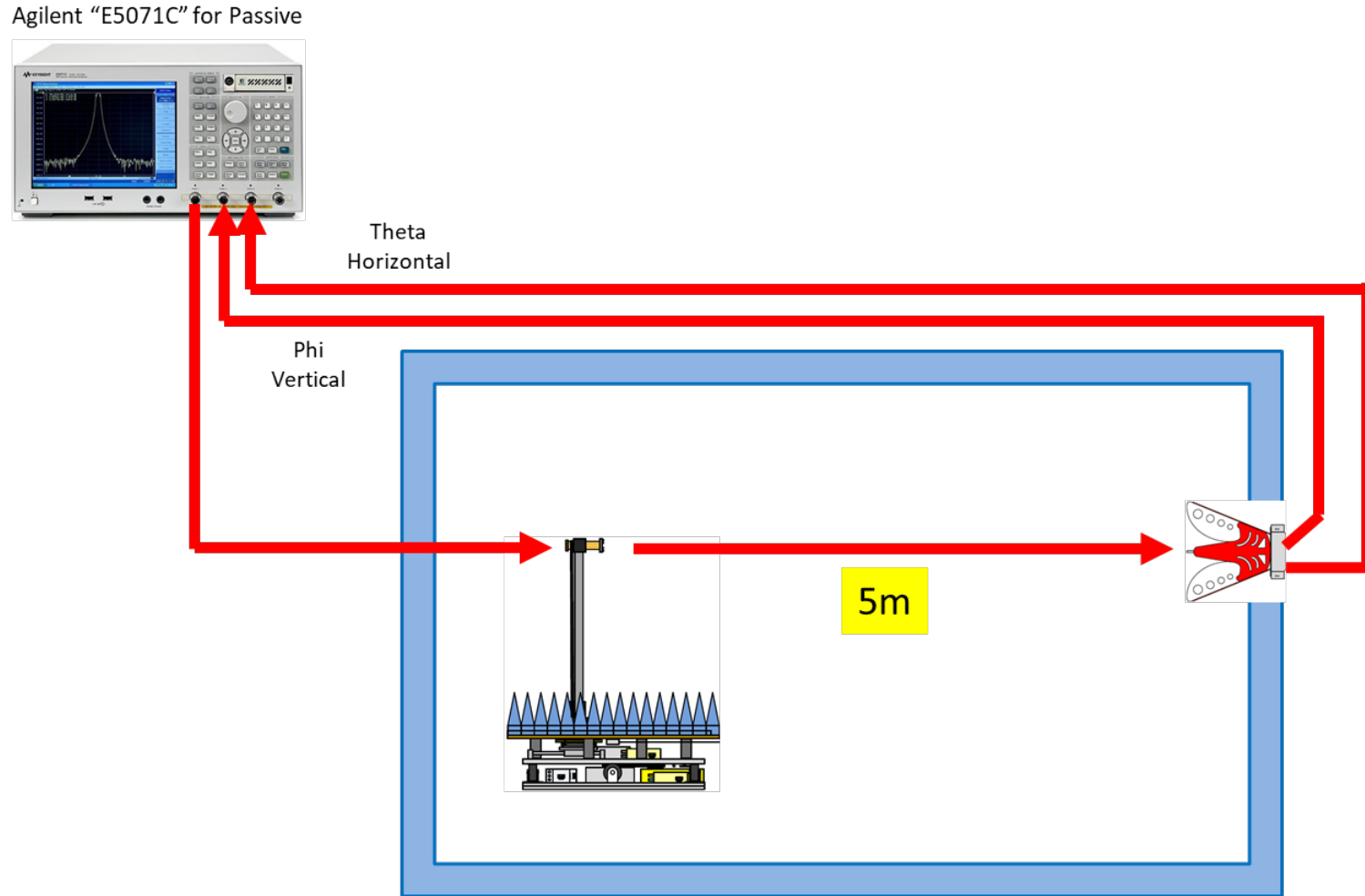
Type : Monopole Antenna (FPC pattern antenna)

Impedance :  $50\Omega$

Pink : Silk



- ANT chamber Wiring Diagram



- Antenna Gain Measuring method
- (1) Fix the DUT on the foam head and perform passive radiation pattern (3D) measurements. ※Refer to Figure 4
- (2) A 2D (Z-X plane, Z-Y plane, X-Y plane) radiation pattern is obtained from a 3D radiation pattern. ※Refer to Figure 5

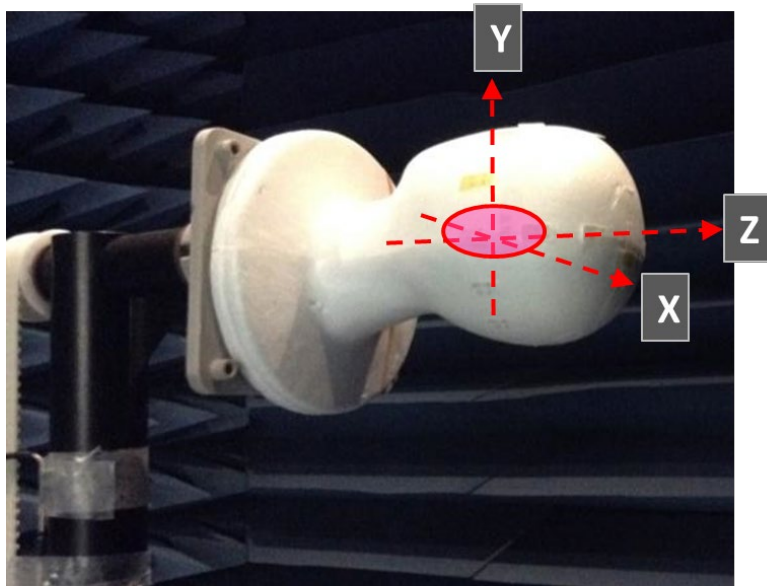


Figure 4 DUT Mount position

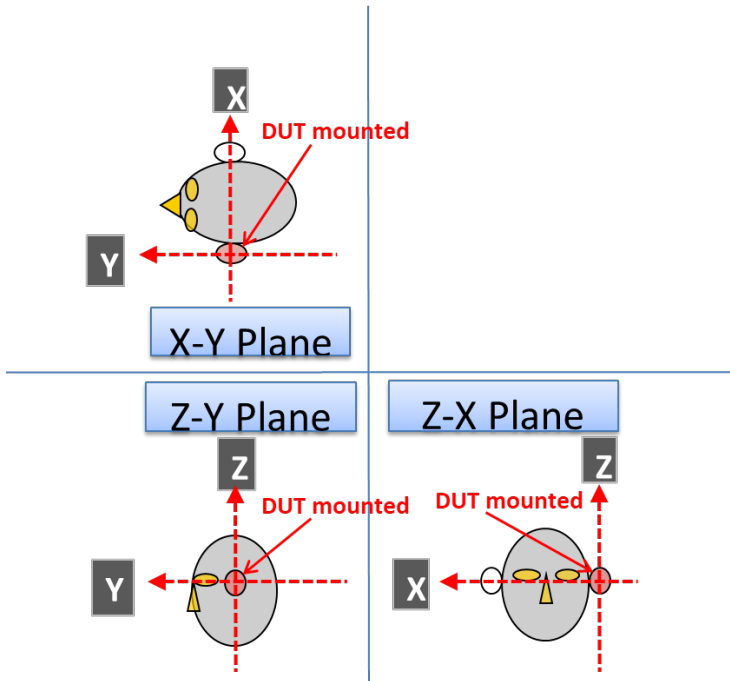
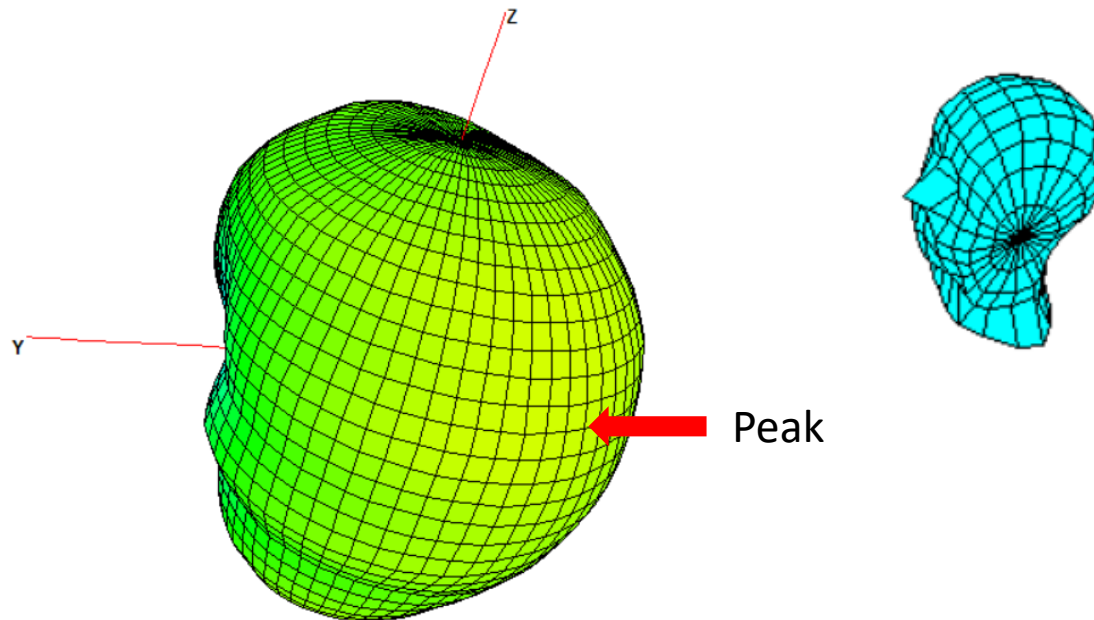


Figure 5 Measurement plane

# Antenna Gain\_Lch

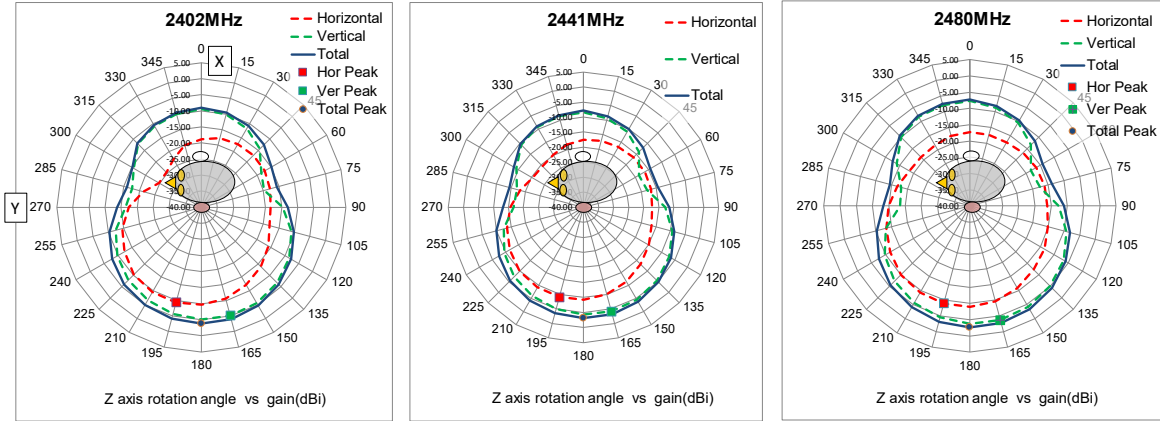
Peak Gain:-1.805dBi

Frequency(Channel)	2402MHz(ch0)	2441MHz(ch39)	2480MHz(ch78)
Peak gain(dBi)	-2.599	-1.977	<b>-1.805</b>
Total power(dBm)	-6.654	-5.951	-5.829
Efficiency(%)	21.61	25.40	26.13



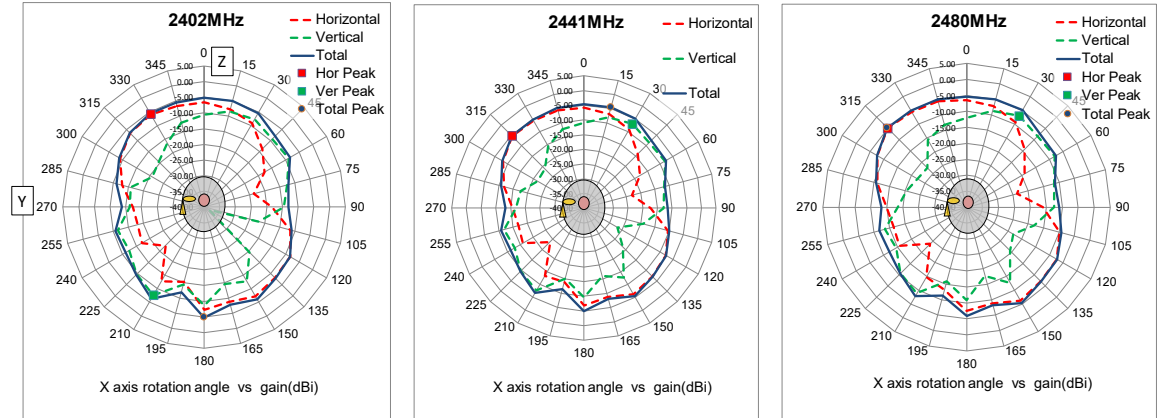
## Radiation pattern 2D (X-Y Plane)

Center Frequency	2402MHz	2441MHz	2480MHz
Horizontal Peak gain (dBi)	-9.37	-9.03	-9.00
Vertical Peak gain (dBi)	-5.10	-4.12	-3.68
Total Peak gain (dBi)	-3.85	-3.08	-2.65



## Radiation pattern 2D (Z-Y Plane)

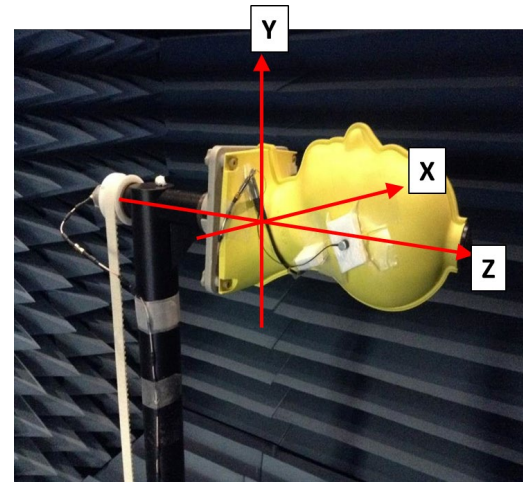
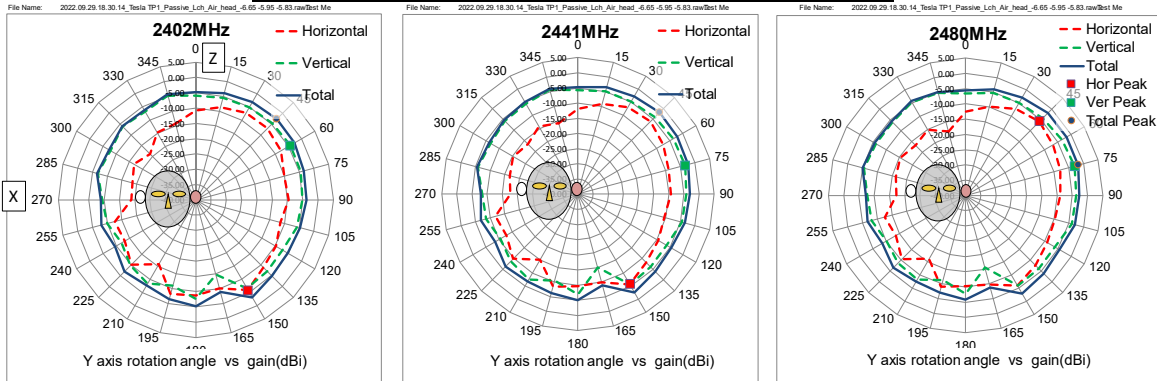
Center Frequency	2402MHz	2441MHz	2480MHz
Horizontal Peak gain (dBi)	-5.92	-5.31	-4.93
Vertical Peak gain (dBi)	-7.49	-6.95	-6.93
Total Peak gain (dBi)	-4.86	-4.47	-4.85



## Radiation pattern 2D (Z-X Plane)

Efficiency (dB) (%)	-6.65	21.6	-5.95	25.4	-5.83	26.1
Center Frequency	2402MHz	2441MHz	2480MHz			
Horizontal Peak gain (dBi)	-5.92	-5.71	-5.69			
Vertical Peak gain (dBi)	-4.35	-3.43	-3.07			
Total Peak gain (dBi)	-2.60	-1.98	-1.80			

Passive radiation pattern  
DUT :  
Tester : E5071C

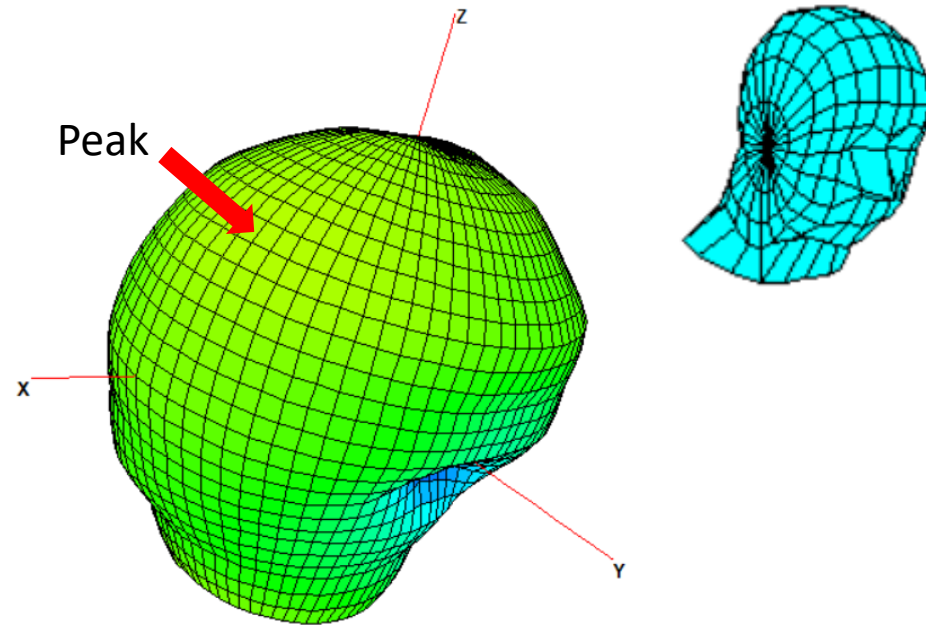




# Antenna Gain\_Rch

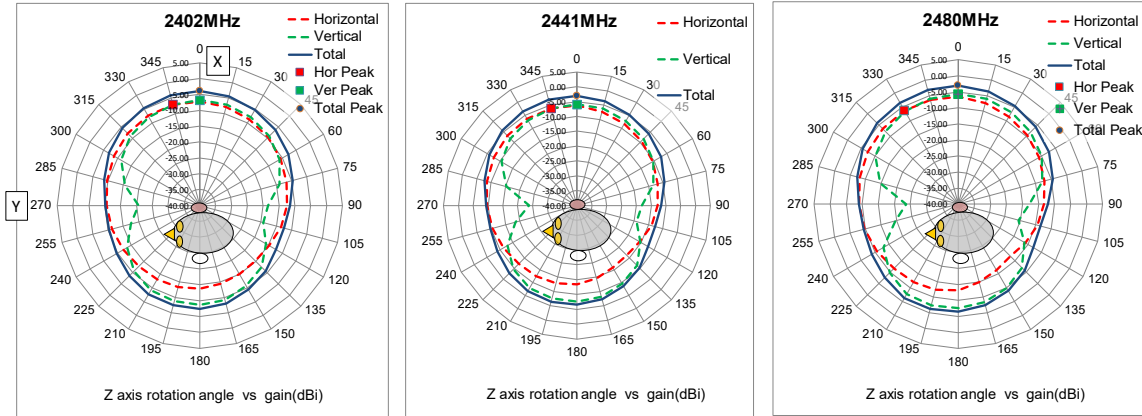
Peak Gain:-1.597dBi

Frequency(Channel)	2402MHz(ch0)	2441MHz(ch39)	2480MHz(ch78)
Peak gain(dBi)	-2.514	-1.646	<b>-1.597</b>
Total power(dBm)	-6.520	-5.693	-5.733
Efficiency(%)	22.29	26.96	26.71



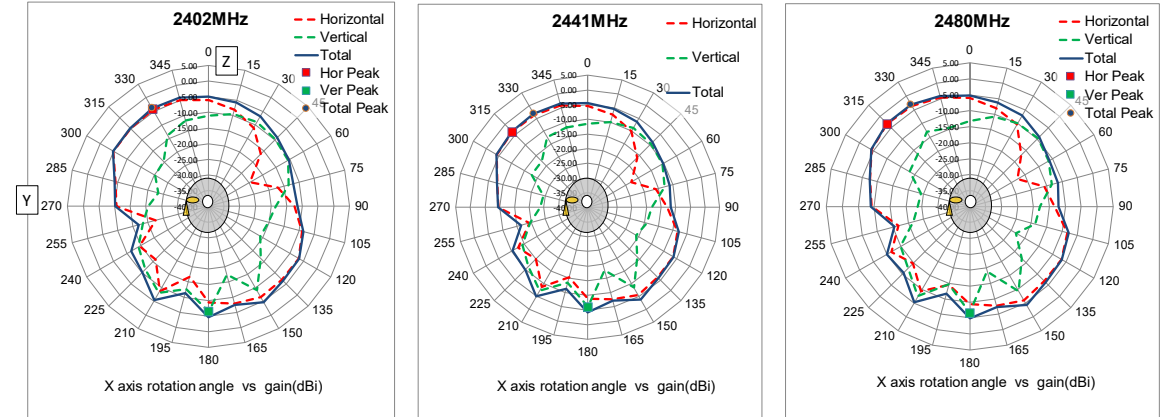
## Radiation pattern 2D (X-Y Plane)

Center Frequency	2402MHz	2441MHz	2480MHz
Horizontal Peak gain (dBi)	-7.13	-6.18	-6.31
Vertical Peak gain (dBi)	-6.81	-6.14	-5.70
Total Peak gain (dBi)	-3.98	-3.15	-3.07



## Radiation pattern 2D (Z-Y Plane)

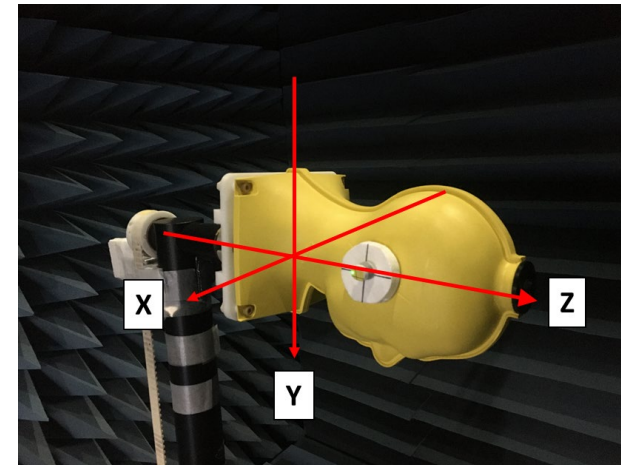
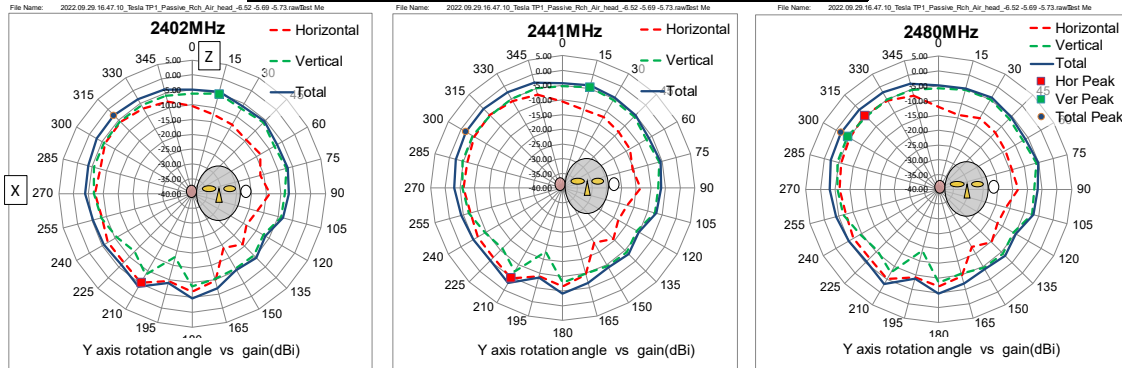
Center Frequency	2402MHz	2441MHz	2480MHz
Horizontal Peak gain (dBi)	-4.34	-3.56	-3.36
Vertical Peak gain (dBi)	-6.34	-6.08	-6.67
Total Peak gain (dBi)	-3.88	-3.09	-3.05



## Radiation pattern 2D (Z-X Plane)

Efficiency (dB) (%)	-6.52	22.3	-5.69	27.0	-5.73	26.7
Center Frequency	2402MHz	2441MHz	2480MHz			
Horizontal Peak gain (dBi)	-5.45	-4.65	-4.67			
Vertical Peak gain (dBi)	-5.15	-4.54	-4.35			
Total Peak gain (dBi)	-2.78	-1.87	-1.79			

**Passive radiation pattern**  
 DUT :  
 Tester : E5071C



**EOF**