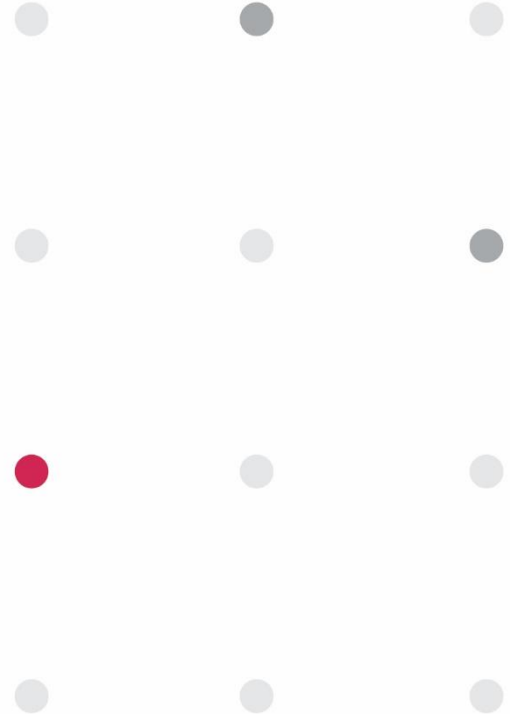


PSA

PASSIVE SYSTEM ALLIANCE  
INPAQ TECHNOLOGY CO., LTD.





Presented by  
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Last updated in Sep.12 2022

Model number: 5F77E9  
Product :BT / WiFi

# Contents

- **Product / Antenna Overview**
- **Test Results**
  - Antenna S-parameter
  - Antenna Isolation
  - Efficiency & Peak Gain
  - 3D Radiation Pattern
- **Conclusions**

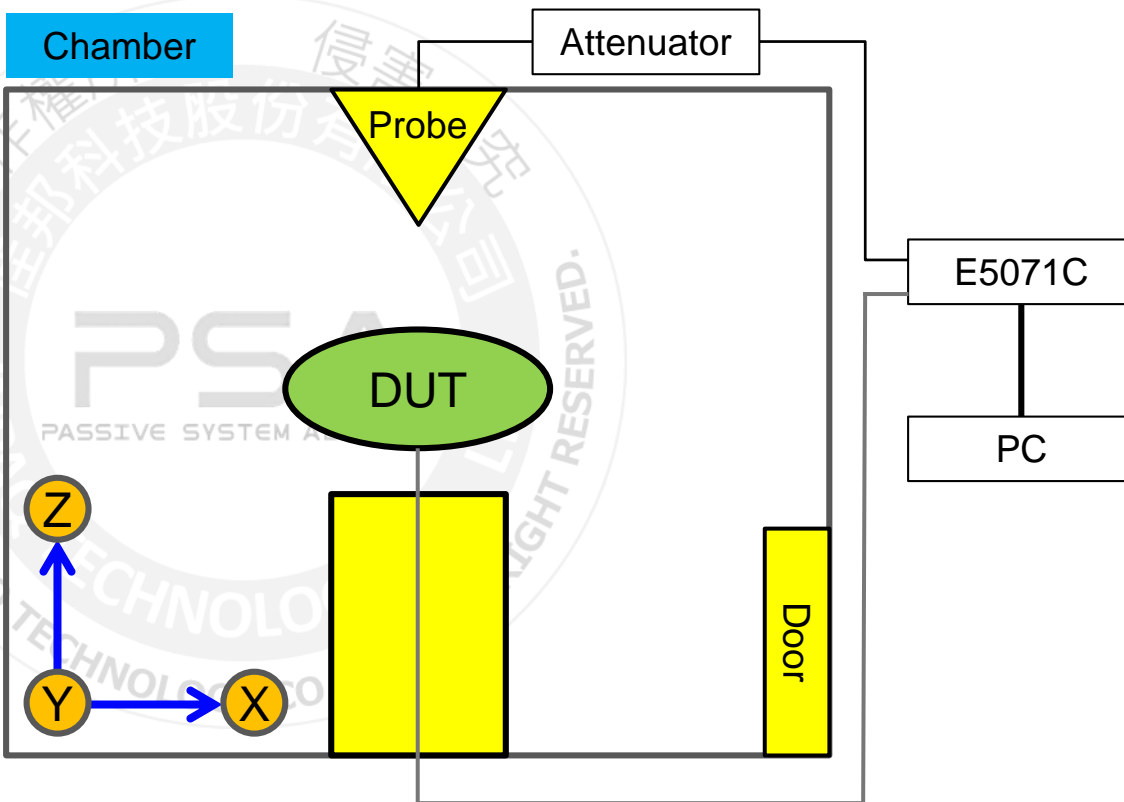


# Test Environment - OTA Chamber (I)

## OTA chamber TEM-24 system (Multi-Probe)

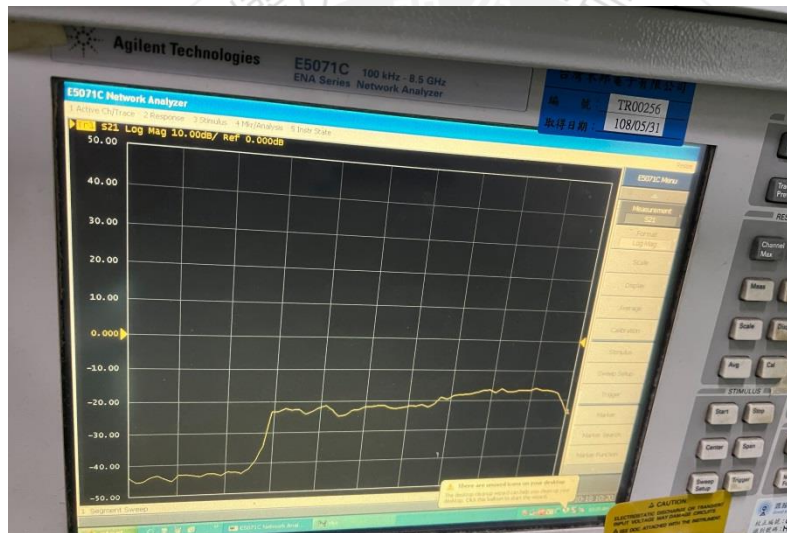
1. Antenna passive test 700MHz~6000MHz
2. Long Term Evolution (LTE SISO) OTA Test
3. GSM/GPRS/EDGE on 850/900/1800/1900 OTA Test
4. WCDMA/HSDPA/HSUPA on FDD I~IX OTA Test
5. CDMA2000/1xEV-DO on 850/1900/AWS OTA Test
6. ECC
7. GPS Performance
8. Active Measurement: TRP,EIRP,EIS,TIS,Throught,WiFi,BT,Non-Signaling

# Test Environment - OTA Chamber (II)



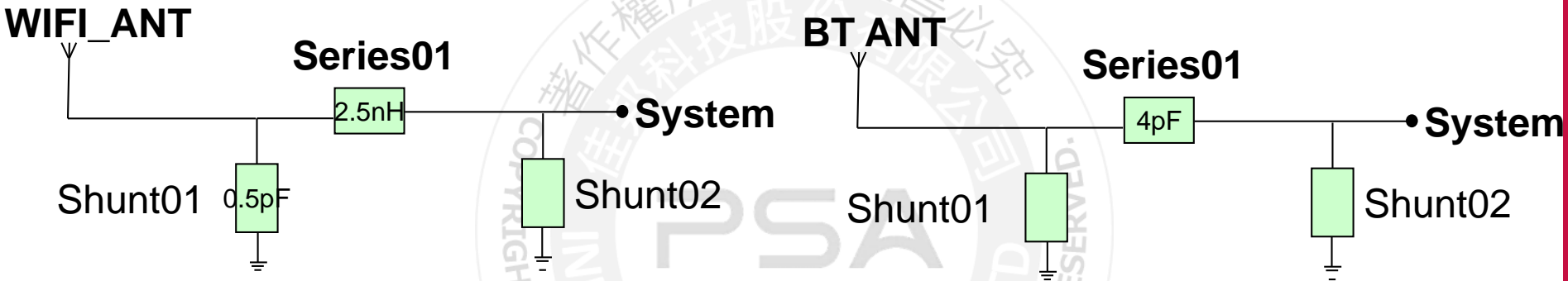
# Test Environment - OTA Chamber (III)

## Agilent E5071C



# Antenna Matching circuit (INPAQ Proposed)

## Matching Circuit

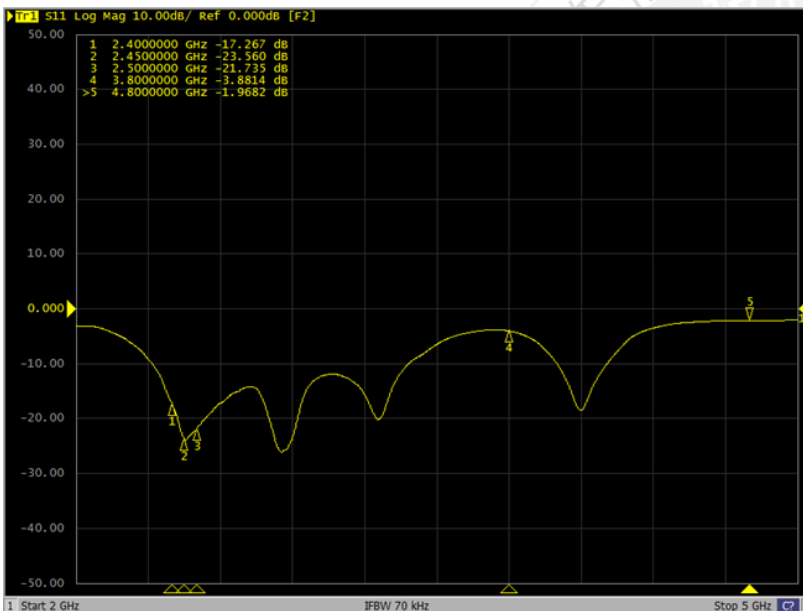


Location	Value	Series
Shunt01	0.5pF	GJM03
Series01	2.5nH	LQP03
Shunt02	NA	NA

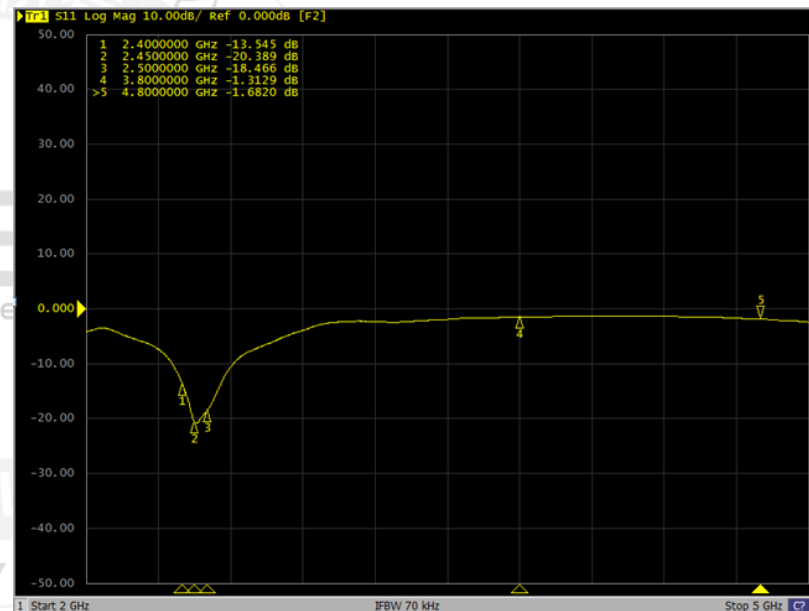
Location	Value	Series
Shunt01	NA	NA
Series01	4pF	GJM03
Shunt02	NA	NA

# Antenna S-parameter - 1st (INPAQ Proposed)

WIFI



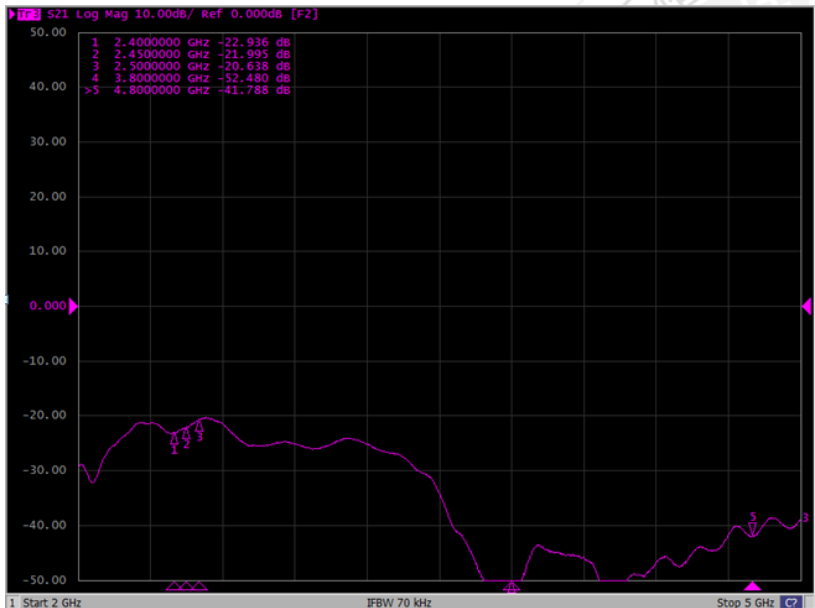
BT





# Antenna S-parameter - 1st (INPAQ Proposed)

WIFI-BT



Antenna Information	Antenna Type	Model Number
WIFI	PIFA	WAG-M-LA-00-079
BT	PIFA	WAG-M-LA-00-080

# Efficiency & Peak Gain - 1st (INPAQ Proposed)

## WIFI

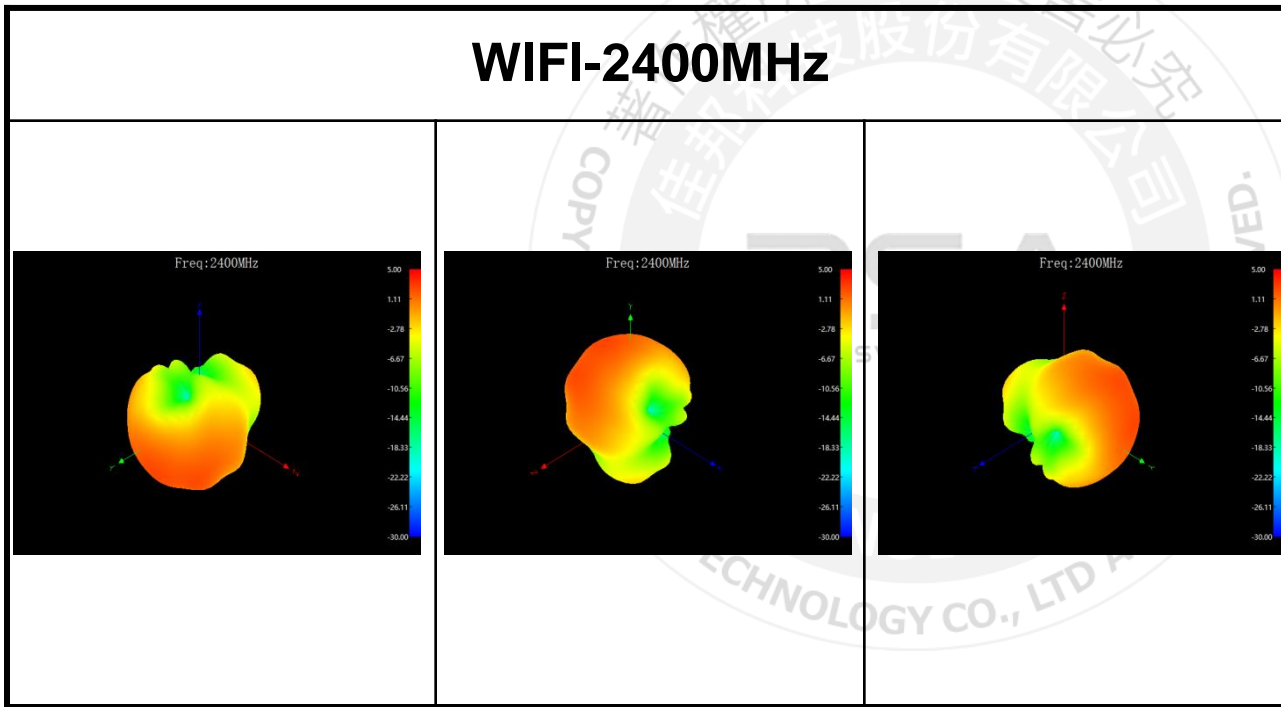
Frequency (MHz)	Efficiency (%)	Peak Gain (dBi)
2400	43.17	2.71
2410	45.32	2.54
2420	44.62	2.47
2430	45.75	2.58
2440	46.53	2.55
2450	47.79	2.63
2460	47.23	2.62
2470	46.21	2.86
2480	45.66	2.51
2490	43.81	2.47
2500	44.47	2.31
3800	26.98	-2.28
4800	5.36	-9.26

## BT

Frequency (MHz)	Efficiency (%)	Peak Gain (dBi)
2400	38.54	0.48
2410	39.45	0.55
2420	40.25	0.50
2430	42.73	0.63
2440	41.62	0.72
2450	43.02	0.77
2460	43.35	0.87
2470	42.76	1.07
2480	41.11	0.62
2490	41.53	0.68
2500	40.17	0.62
3800	2.42	-12.32
4800	1.23	-15.02

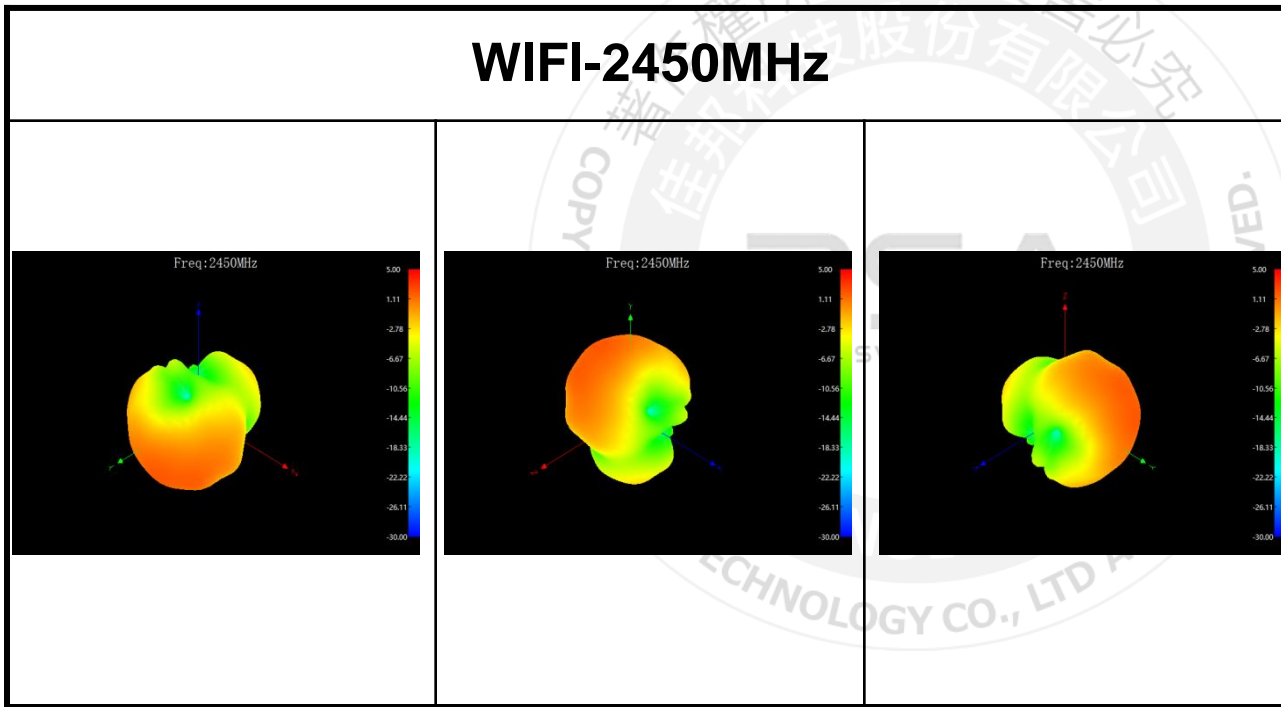
# 3D Radiation Pattern - 1st (INPAQ Proposed)

## WIFI-2400MHz



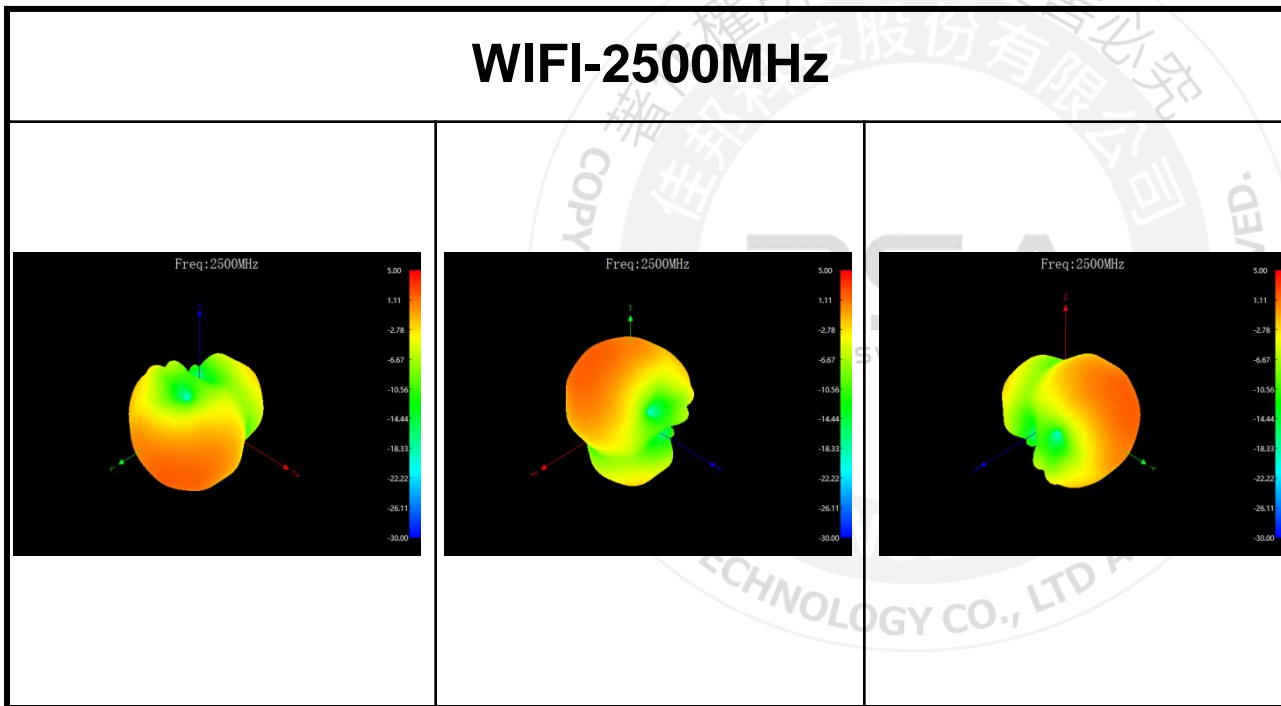
# 3D Radiation Pattern - 1st (INPAQ Proposed)

## WIFI-2450MHz



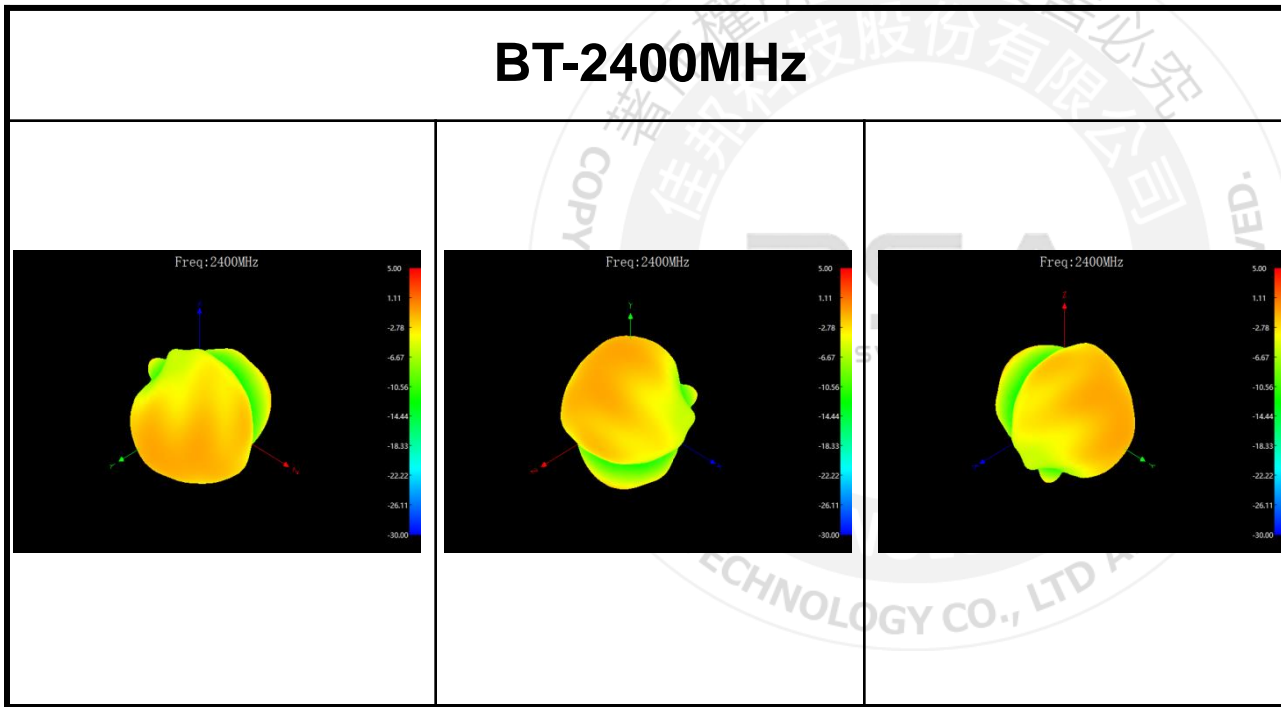
# 3D Radiation Pattern - 1st (INPAQ Proposed)

## WIFI-2500MHz



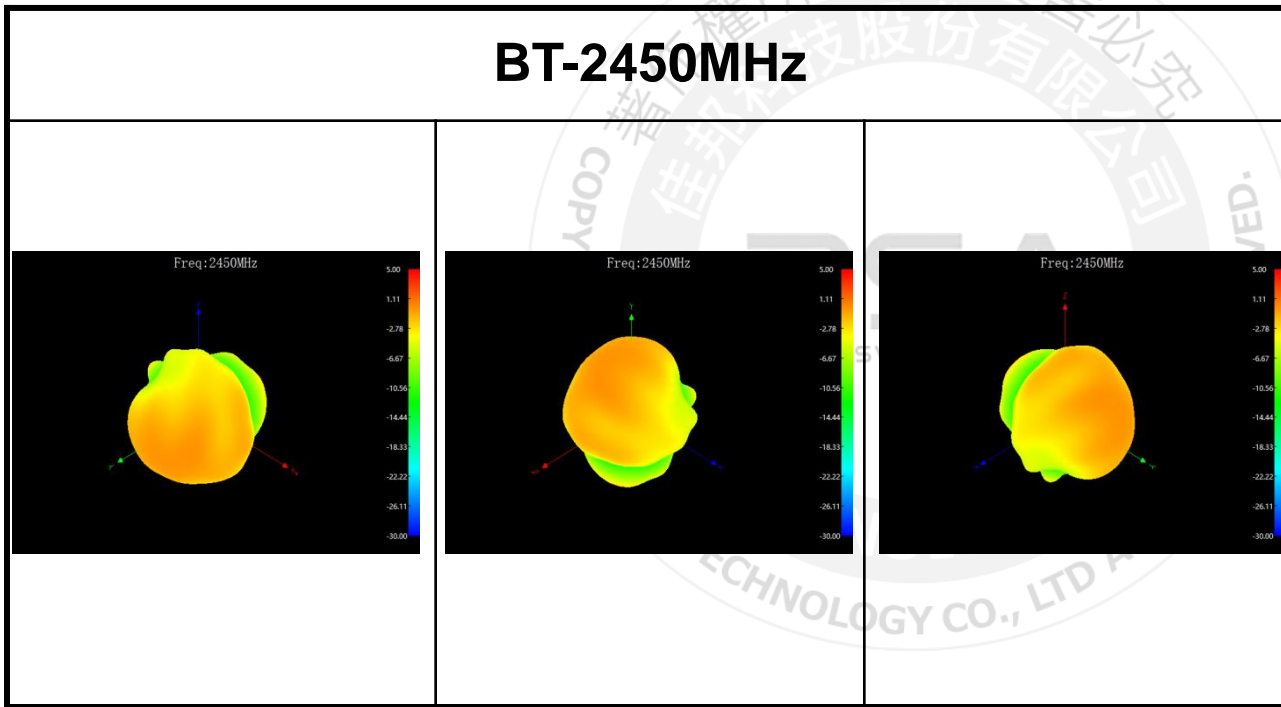
# 3D Radiation Pattern - 1st (INPAQ Proposed)

## BT-2400MHz



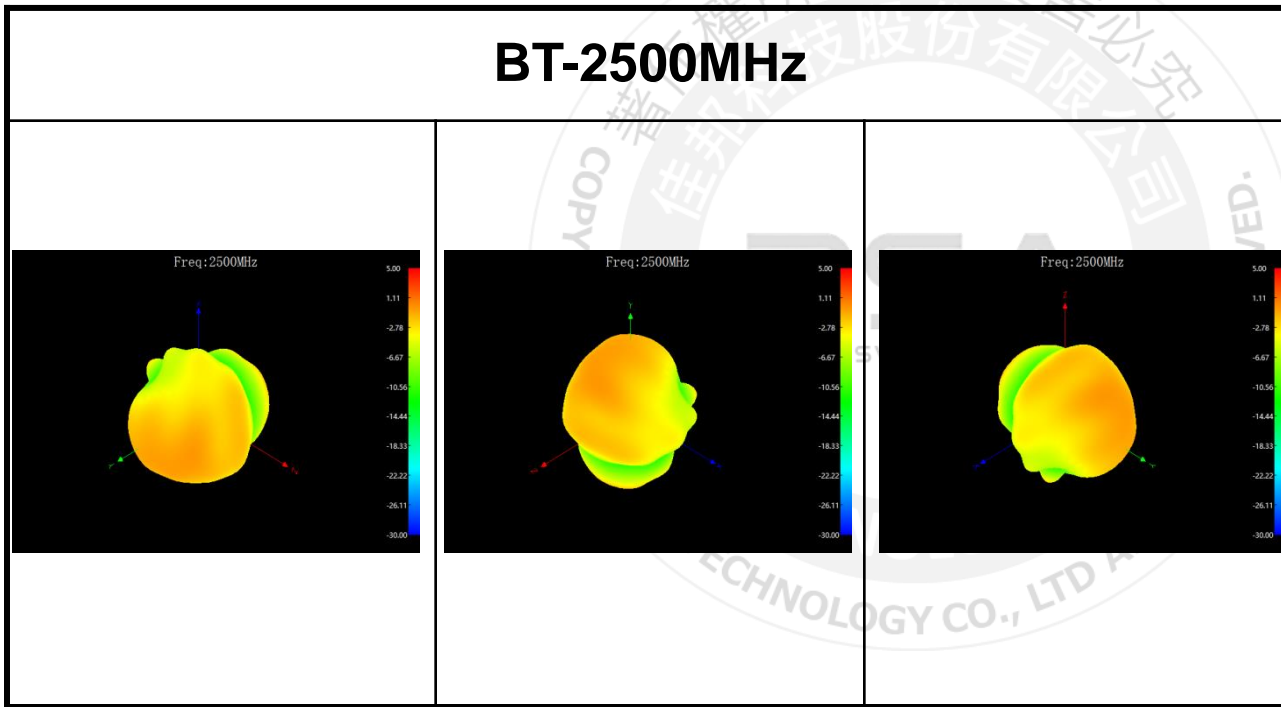
# 3D Radiation Pattern - 1st (INPAQ Proposed)

## BT-2450MHz



# 3D Radiation Pattern - 1st (INPAQ Proposed)

## BT-2500MHz





# Conclusions

1. Tune the matching circuit to in band, the value are shown in page.7.
2. The efficiency of WIFI and BT antenna with are between 43-47% and 38-43% respectively.

