

# X764 Antenna performance\_DVT

Longcheer IBU wireless: Bill  
20260706

### □ Antenna distribution

- WIFI0 and WIFI1 antennas both contain WI-FI2.4G/WI-FI5G/WI-FI6E.

Details of the specific antenna positions can be found in Appendix A.

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## □ Antenna information

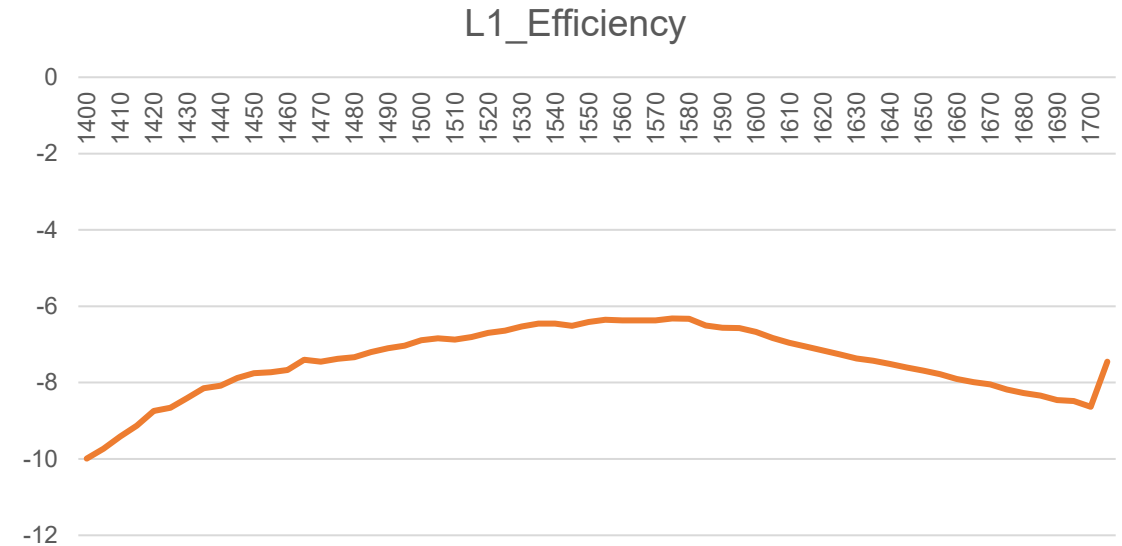
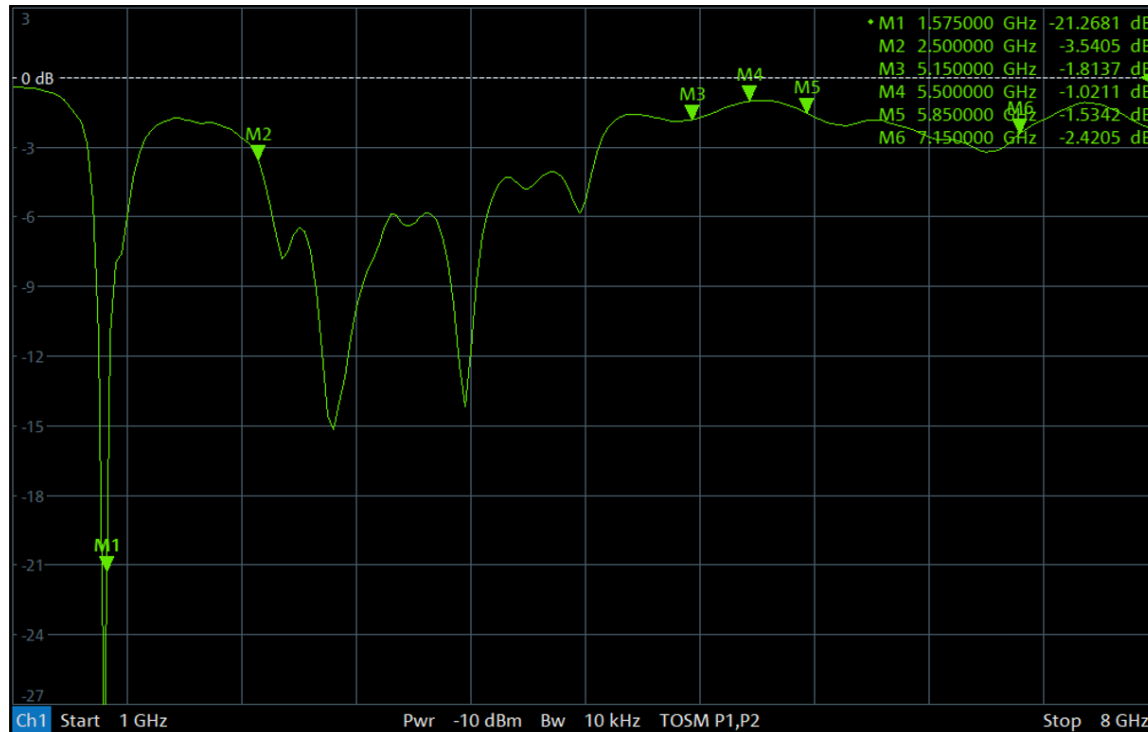
| Antenna | To left side(mm) | To Right side(mm) | To Top side(mm) | To Bottom side(mm) |
|---------|------------------|-------------------|-----------------|--------------------|
| WiFi1   | 52.36            | 0                 | 0               | 133.6              |
| WiFi0   | 48.3             | 0                 | 114.2           | 0                  |

| Antenna Model | Antenna    | Antenna Type | Antenna supplier | Antenna manufacturer address                                                        |
|---------------|------------|--------------|------------------|-------------------------------------------------------------------------------------|
| X764          | WiFi0      | Mid-frame    | Longcheer        | No. 899, Yaohu West Avenue, Nanchang County, Nanchang City, Jiangxi Province, China |
| X764          | WiFi1      | Mid-frame    | Longcheer        | No. 899, Yaohu West Avenue, Nanchang County, Nanchang City, Jiangxi Province, China |
| X764          | BT(WIFI 0) | Mid-frame    | Longcheer        | No. 899, Yaohu West Avenue, Nanchang County, Nanchang City, Jiangxi Province, China |

Details of the specific antenna distances can be found in Appendix A.

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## ❑ L1 S11 and Passive data\_antenna efficiency

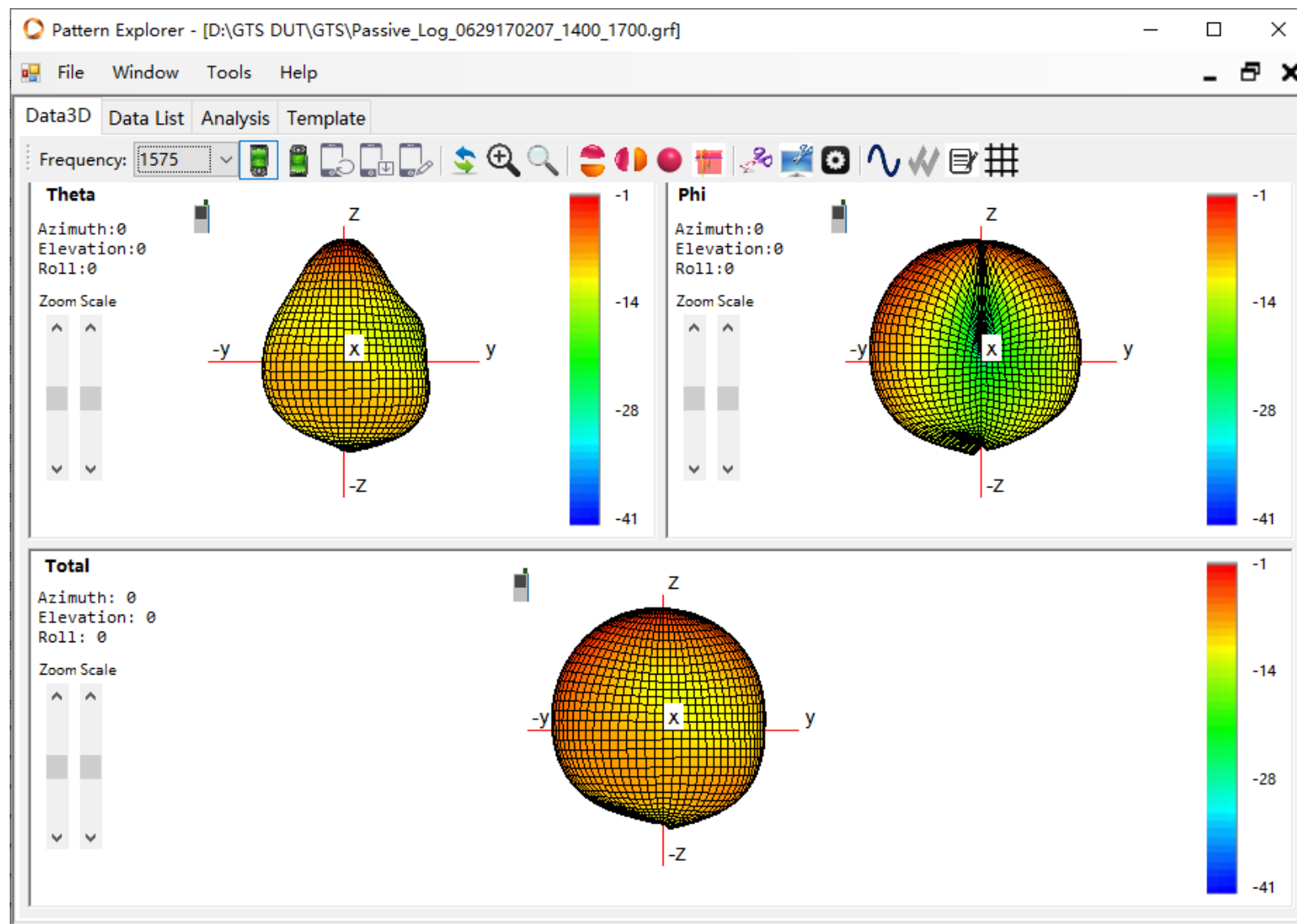


|           | Effi    | Gain    |
|-----------|---------|---------|
| 1.575 GHz | -6.32dB | -1.06dB |

- S11 is about -21dB for L1 band.
- Tot efficiency is about -6dB.
- The performance can meet current design.

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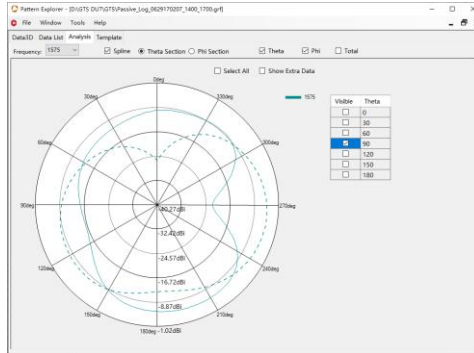
## □ L1 3D Radiation pattern



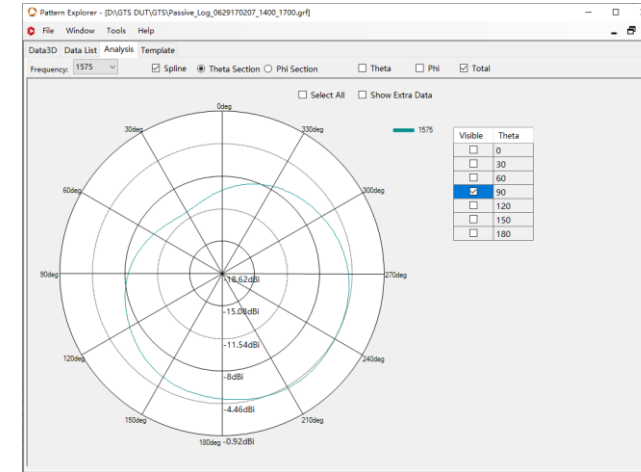
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## L1 2D Radiation pattern

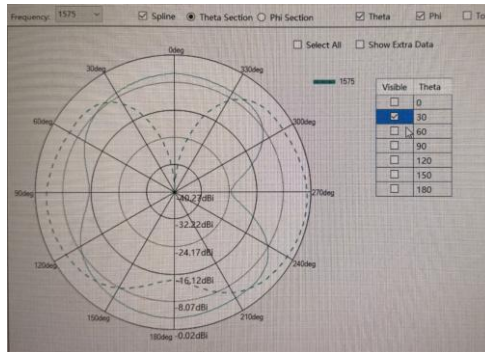
Theta/Phi-90



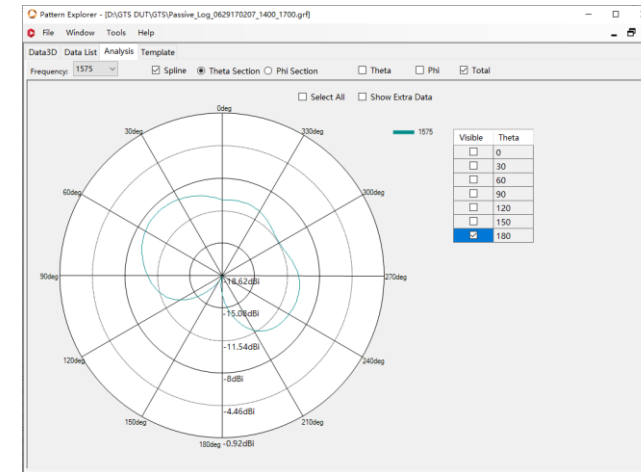
Total-90



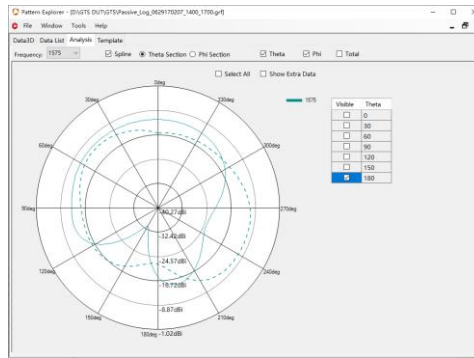
Theta/Phi-30°



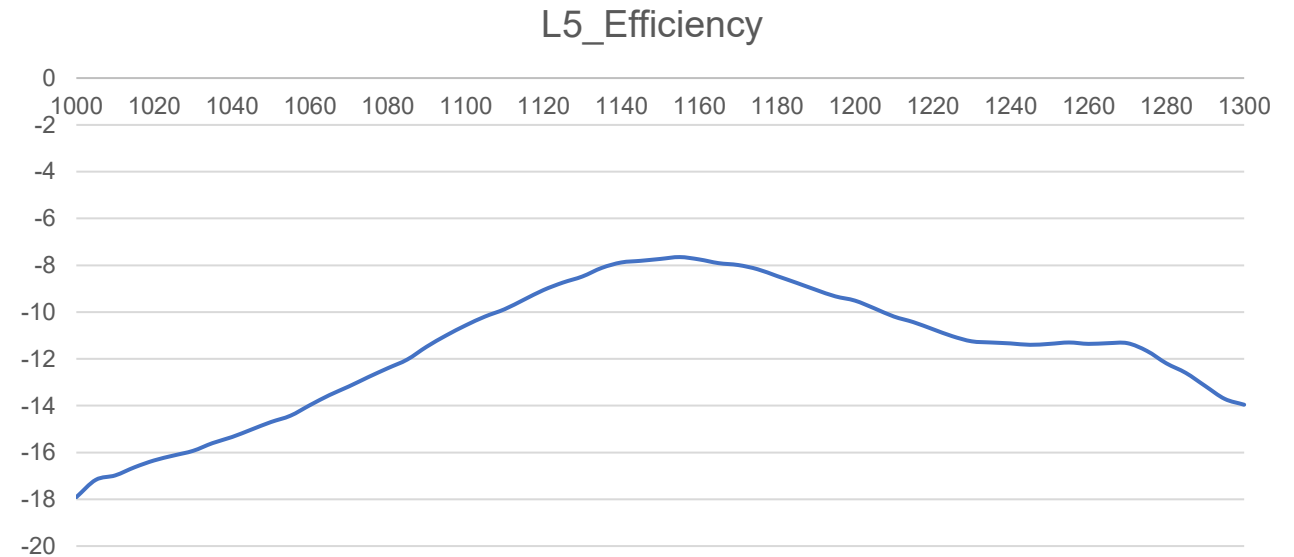
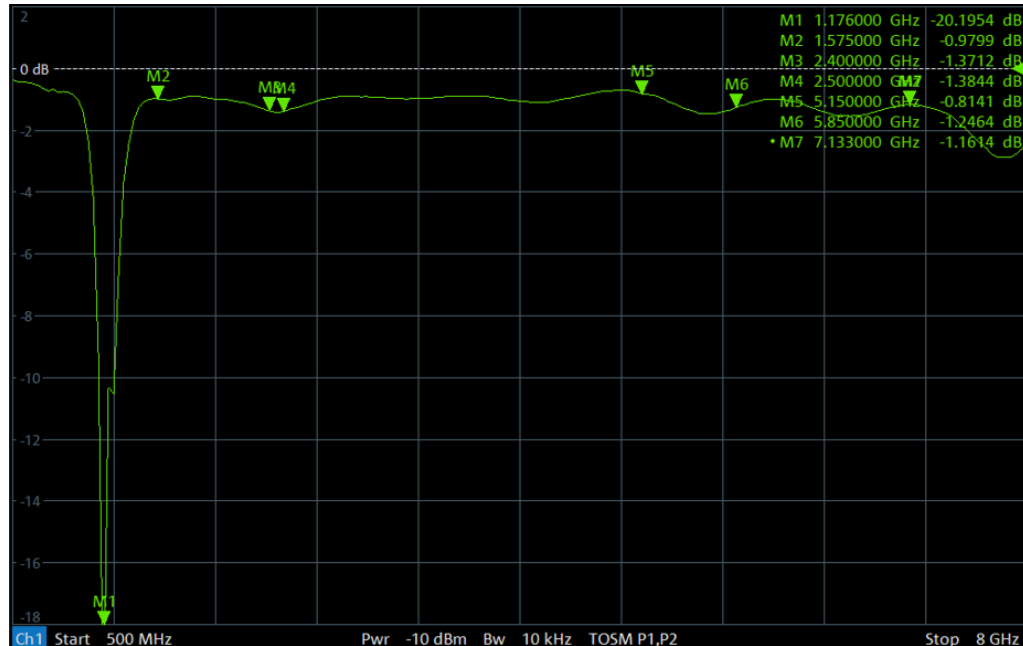
Total-180



Theta/Phi-180



## □ L5 S11 and Passive data\_antenna efficiency

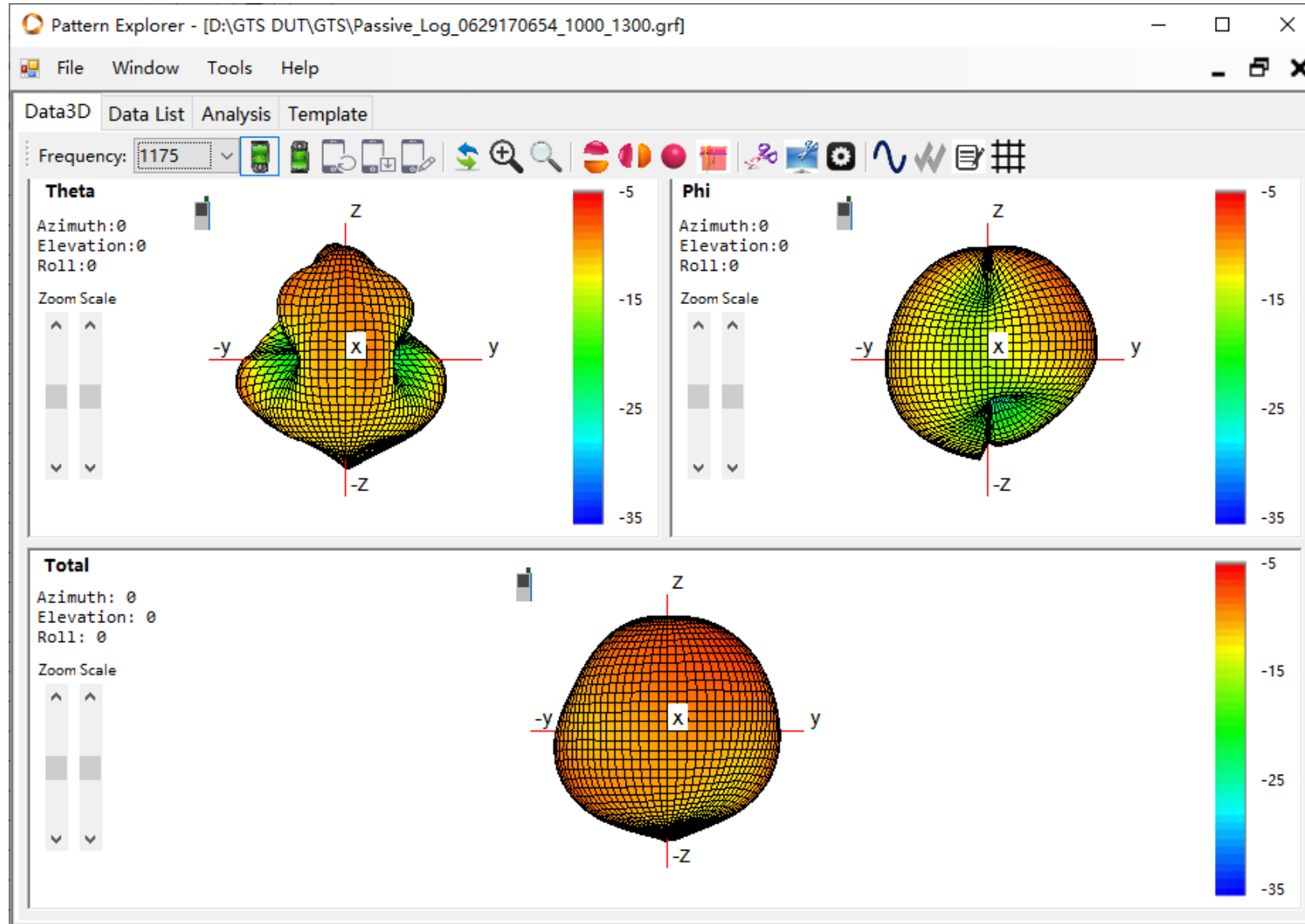


|           | Effi    | Gain    |
|-----------|---------|---------|
| 1.176 GHz | -8.17dB | -5.37dB |

- S11 is about -20dB for L5 band.
- Tot efficiency is about -8.2dB.
- The performance can meet current design.

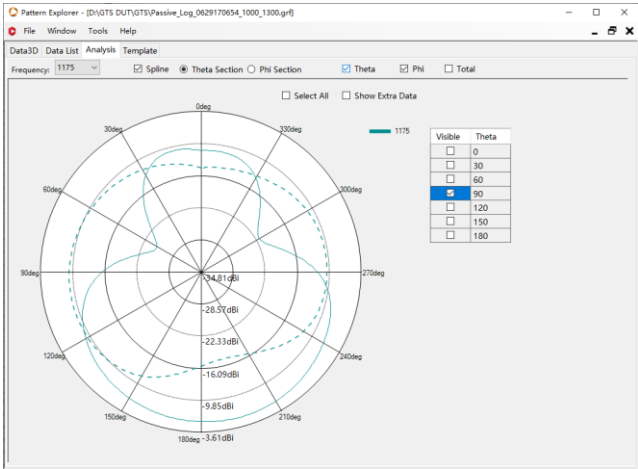
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## ❑ L5 3D radiation pattern

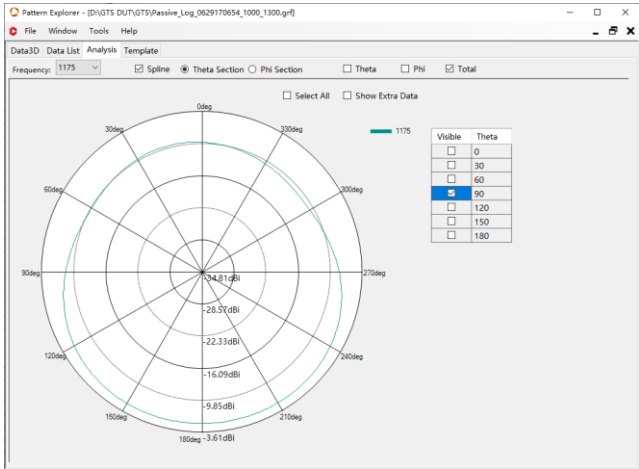


L5 2D Radiation pattern

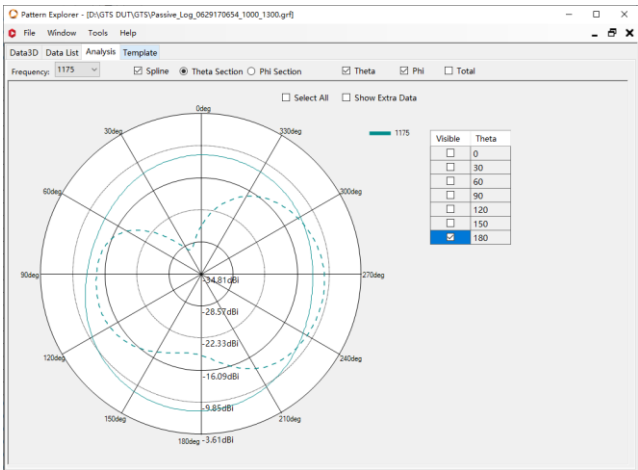
Theta/Phi-90



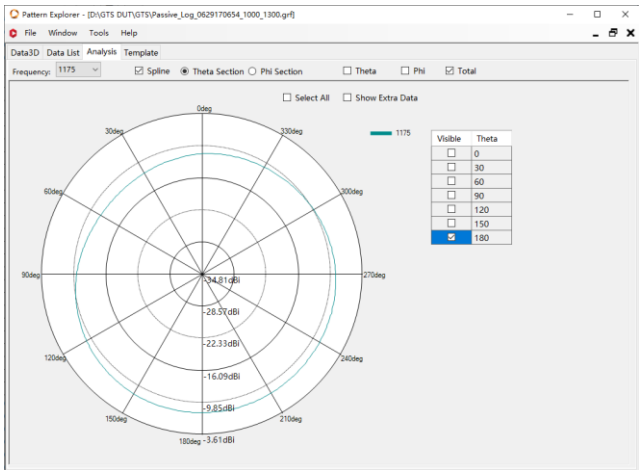
Total-90



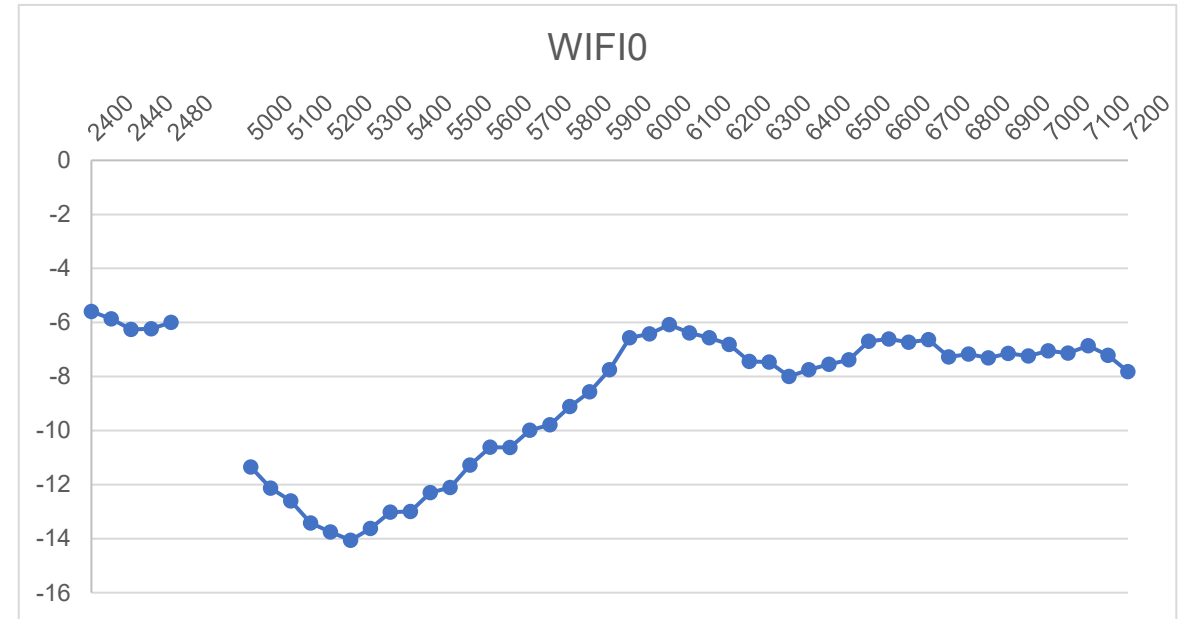
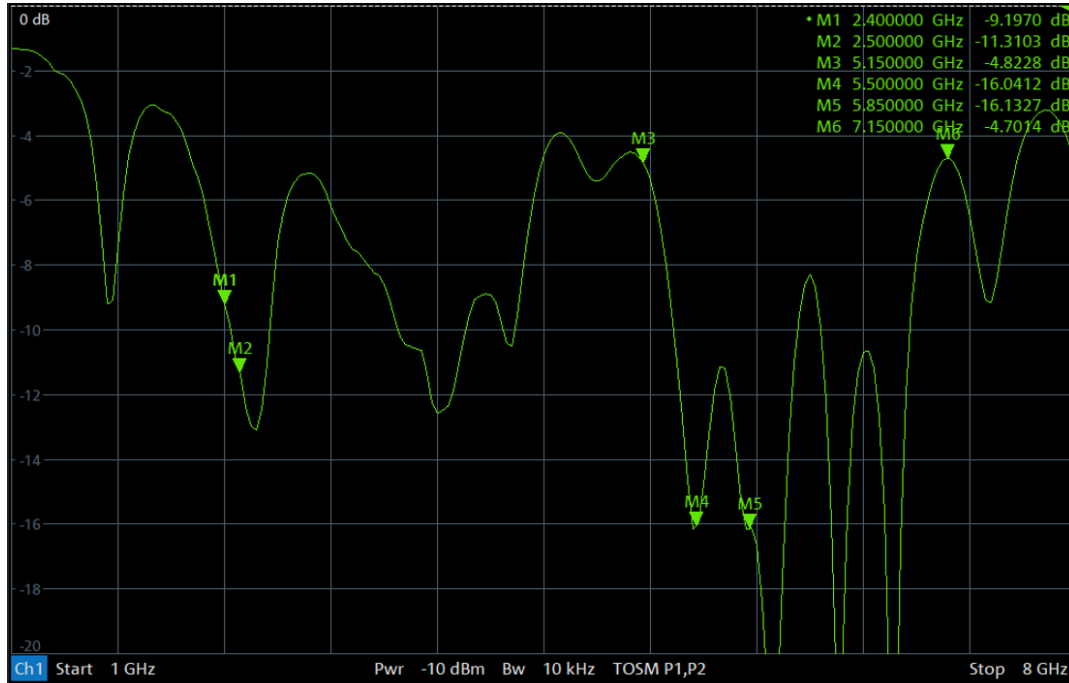
Theta/Phi-180



Total-180



## WiFi0 S11 and Passive data\_antenna efficiency



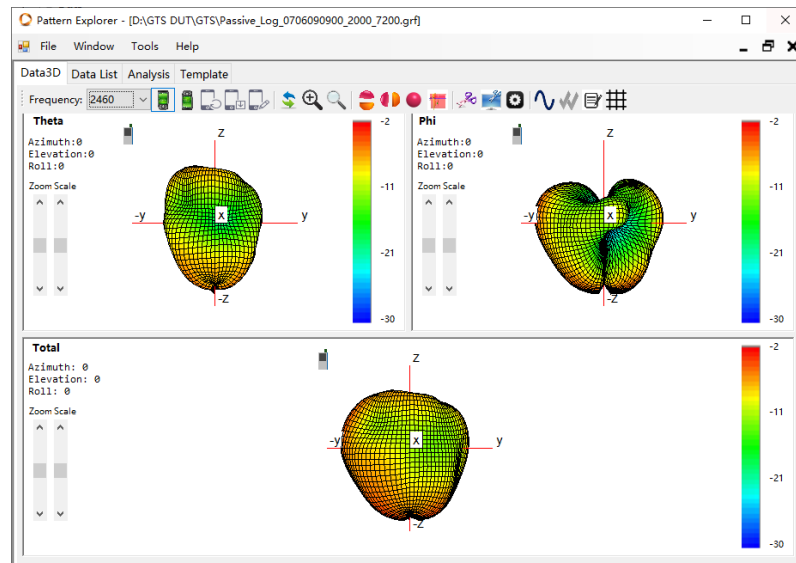
|                 | Effi      | Gain     |
|-----------------|-----------|----------|
| 2.4~2.4835 GHz  | -5.95dBi  | -1.5dBi  |
| 5.15~5.25 GHz   | -13.74dBi | -7.67dBi |
| 5.25~5.35 GHz   | -13.57dBi | -9dBi    |
| 5.47~5.725 GHz  | -11.16dBi | -5.2dB   |
| 5.725~5.85 GHz  | -9.15dBi  | -2.71dBi |
| 5.925~6.425 GHz | -6.95dBi  | -1.01dBi |
| 6.425~6.525 GHz | -7.6dBi   | 2.63dBi  |
| 6.525~6.875 GHz | -7dBi     | -0.6dBi  |
| 6.875~7.125 GHz | -7.1dBi   | -1.8dBi  |

- Low band S11 is about -10dB, high band S11 is about -10dB.
- Low band Tot efficiency is -5.4dB, High band is about -9dB.
- The performance can meet the current design.

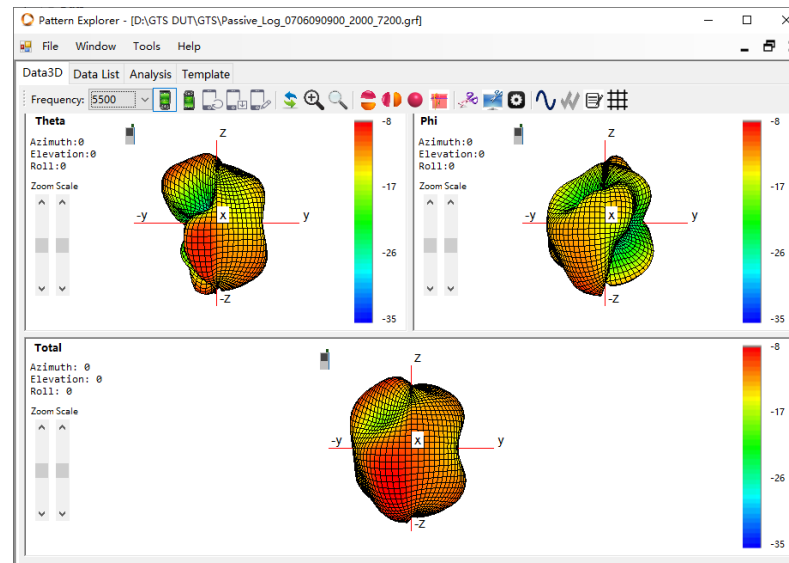
**Note:WiFi 0 Antenna contains BT function**

# [DVT] WiFi0 Antenna performance

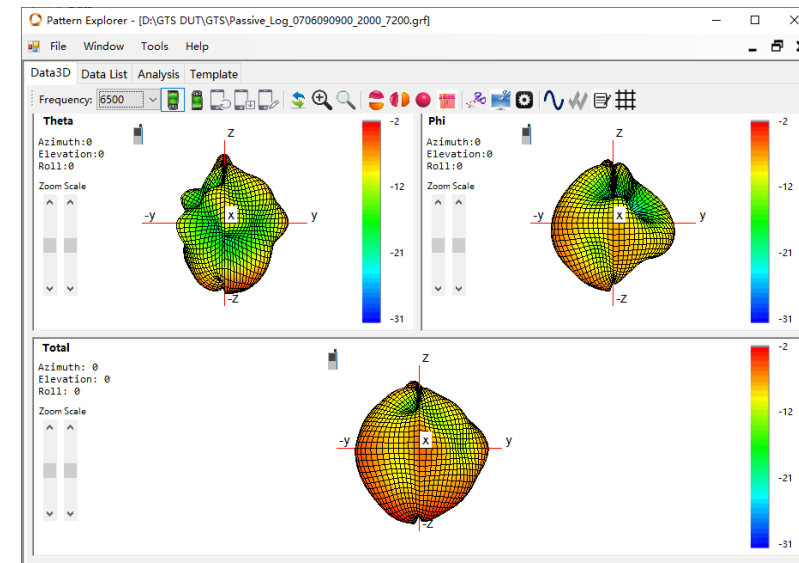
## WiFi0 3D radiation pattern



2.4GHz



5GHz



6GHz

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# [DVT] WiFi0 Antenna performance

## WiFi0 Radiation pattern

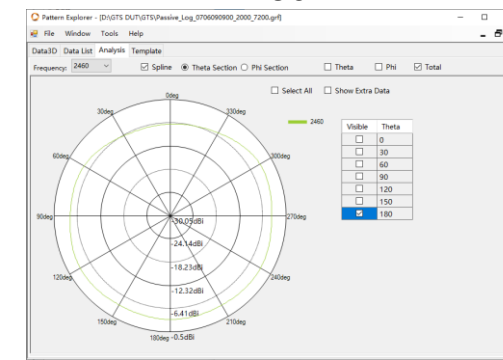
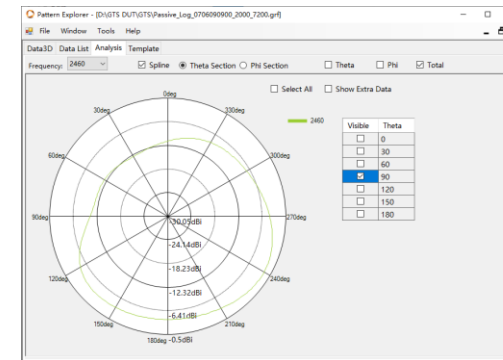
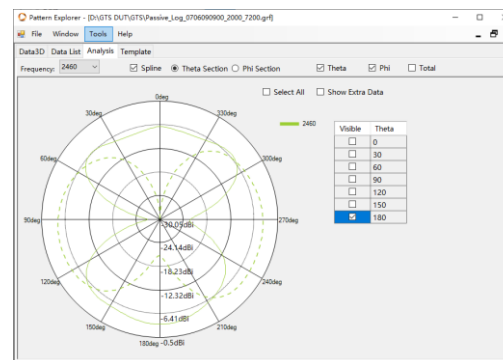
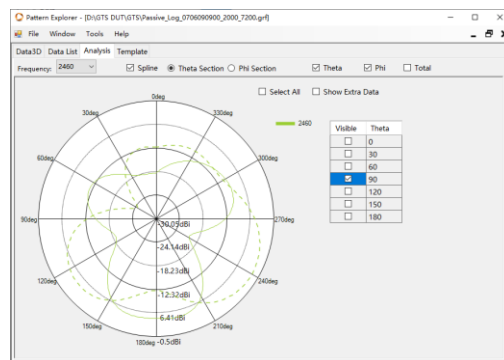
Theta/Phi-90

Theta/Phi-180

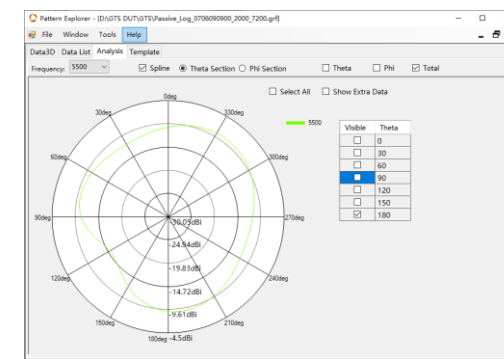
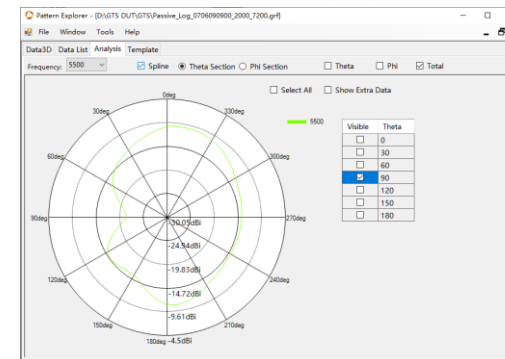
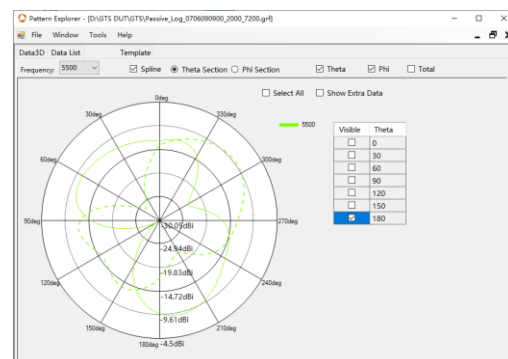
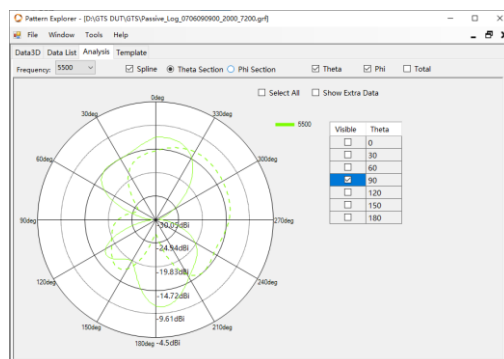
Total-90

Total-180

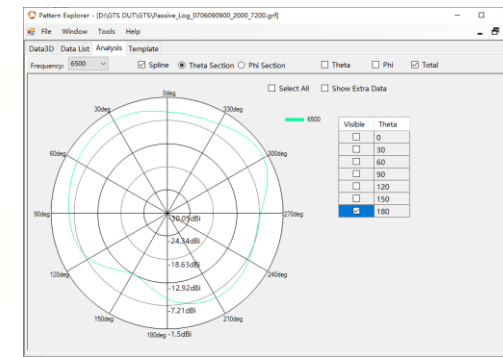
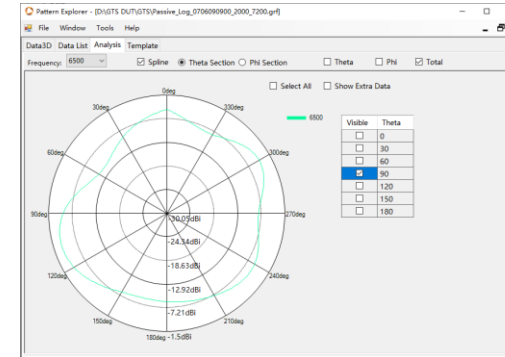
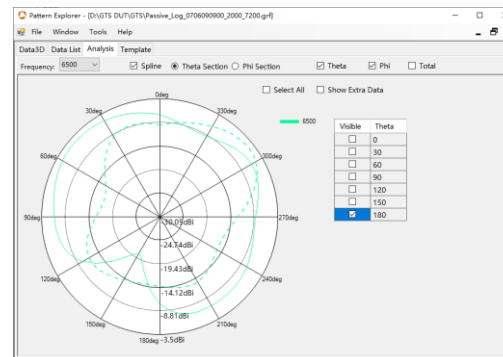
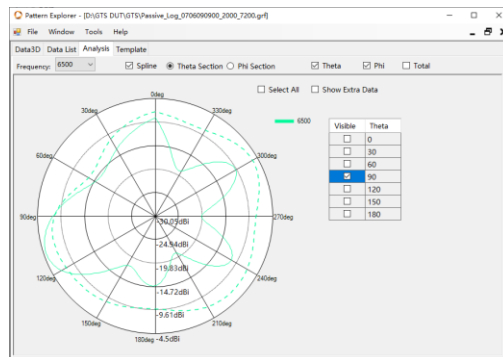
2.4GHz



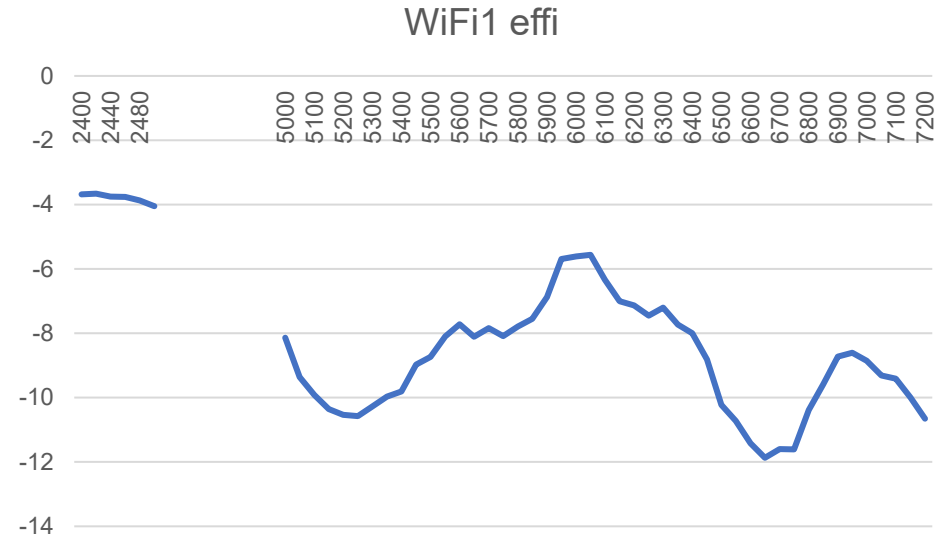
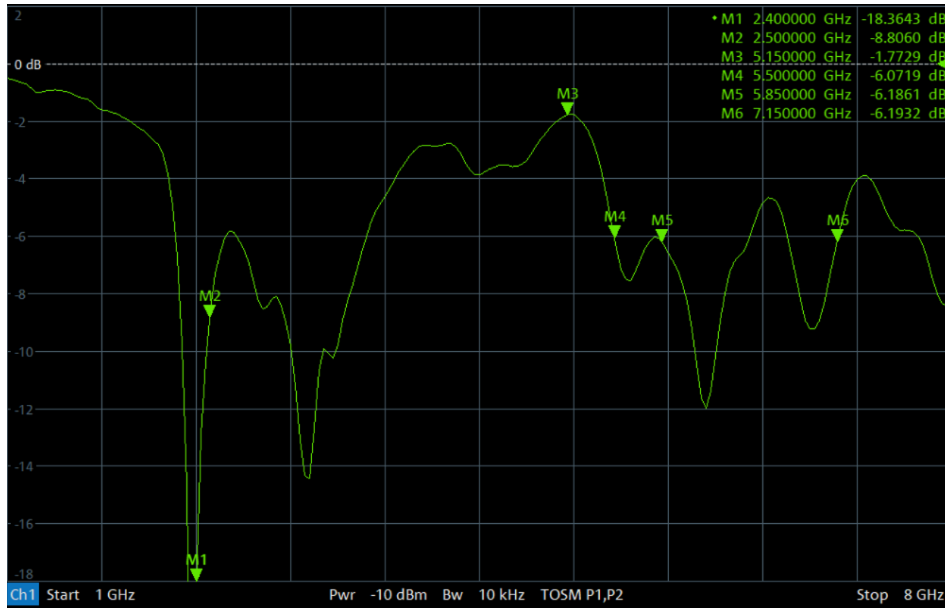
5GHz



6GHz



## WiFi1 S11 and Passive data\_antenna efficiency

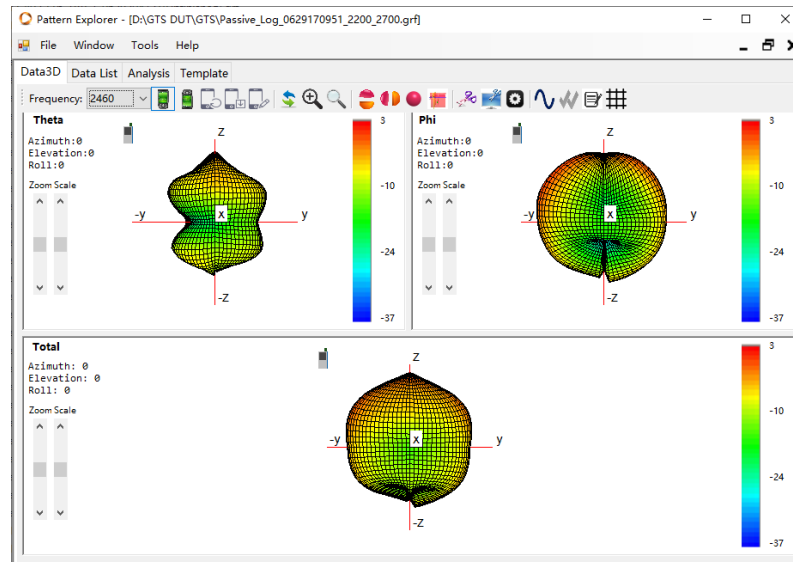


|                 | Effi     | Gain     |
|-----------------|----------|----------|
| 2.4~2.4835 GHz  | -4.92dBi | -0.13dBi |
| 5.15~5.25 GHz   | -9.19dBi | -3dBi    |
| 5.25~5.35 GHz   | -9.16dBi | -4.2dBi  |
| 5.47~5.725 GHz  | -8.19dBi | -2.4dBi  |
| 5.725~5.85 GHz  | -7.81dBi | -2.85dBi |
| 5.925~6.425 GHz | -7.4dBi  | -0.4dBi  |
| 6.425~6.525 GHz | -10.4dBi | -5.3dBi  |
| 6.525~6.875 GHz | -10.3dBi | -5.6dBi  |
| 6.875~7.125 GHz | -11dBi   | -5.9dBi  |

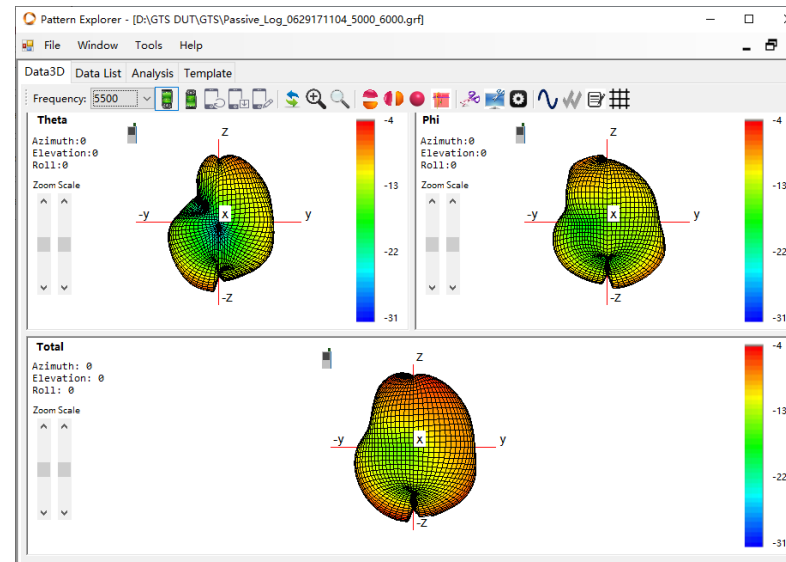
- Low band S11 is about -10dB, high band S11 is about -9dB.
- Low band Tot efficiency is -4dB, High band is about -8dB.
- The performance can meet the current design.

# [DVT] WiFi1 Antenna performance

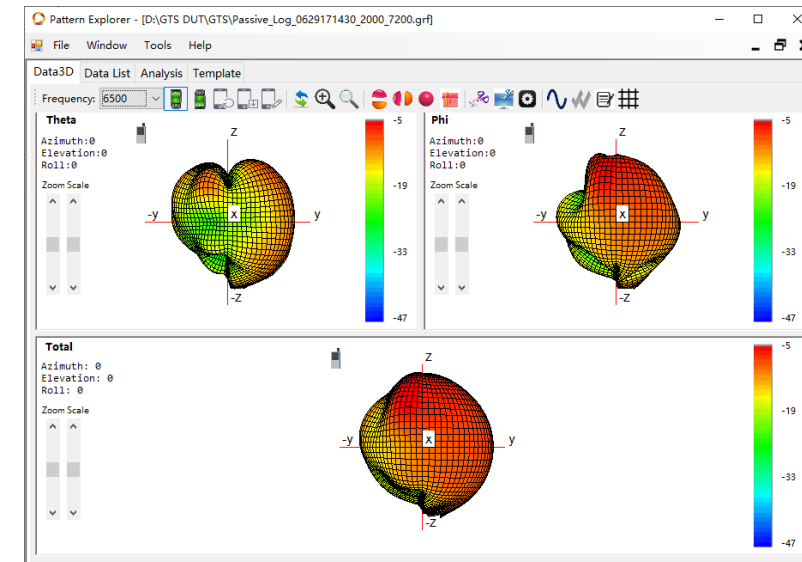
## WiFi1 3D radiation pattern



2.4GHz



5GHz



6GHz

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# [DVT] WiFi1 Antenna performance

## WiFi1 Radiation pattern

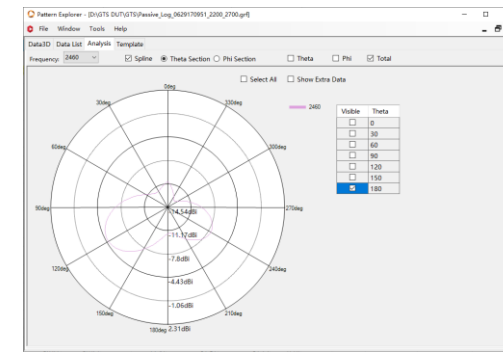
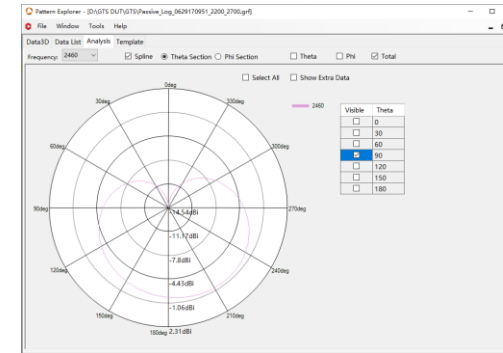
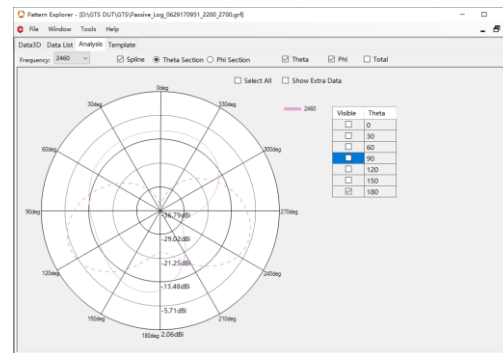
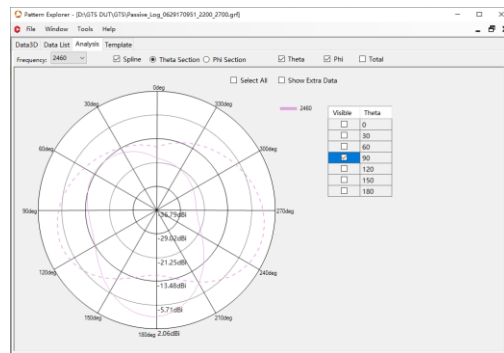
Theta/Phi-90

Theta/Phi-180

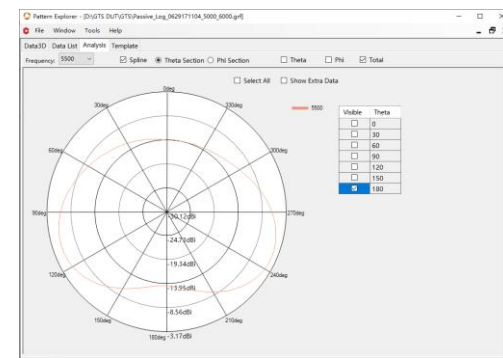
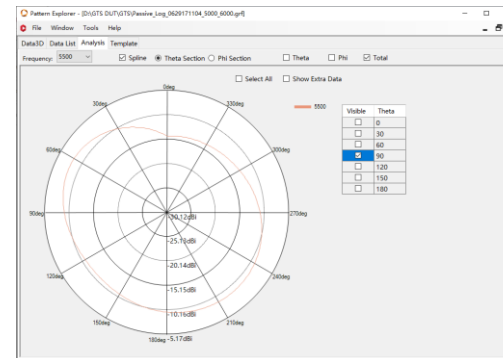
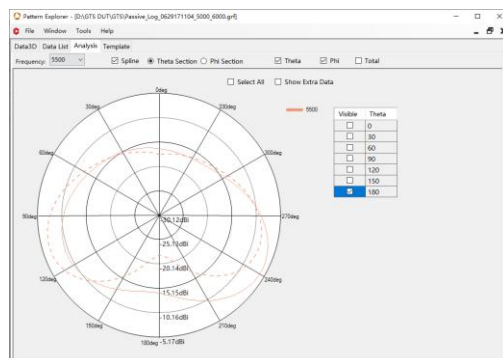
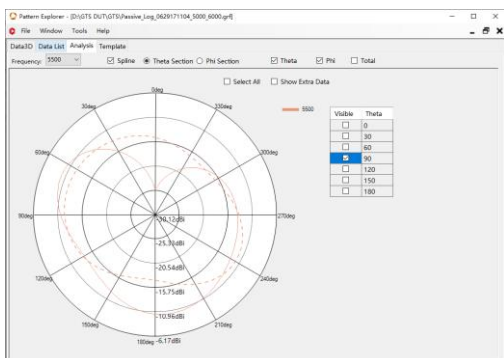
Total-90

Total-180

2.4GHz



5GHz



6GHz

