





**We Connect • We Protect**  
**Antenna Evaluation Report**

**Customer : Pegatron**

**Project : cricket**

**Product : Wi-Fi Antenna**



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Approved by : Leeting Hsieh

**2014.12.25**



# ***Outline***

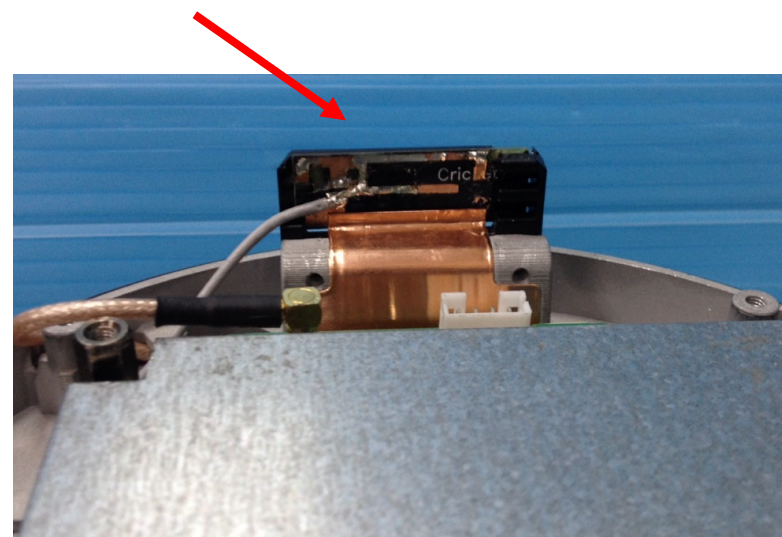
- ***Antenna Overview***
- ***Antenna VSWR***
- ***Antenna Test Results***
  - Gain Table
  - 3D Pattern
  - 2D Pattern
- ***Conclusions***



# Antenna Overview



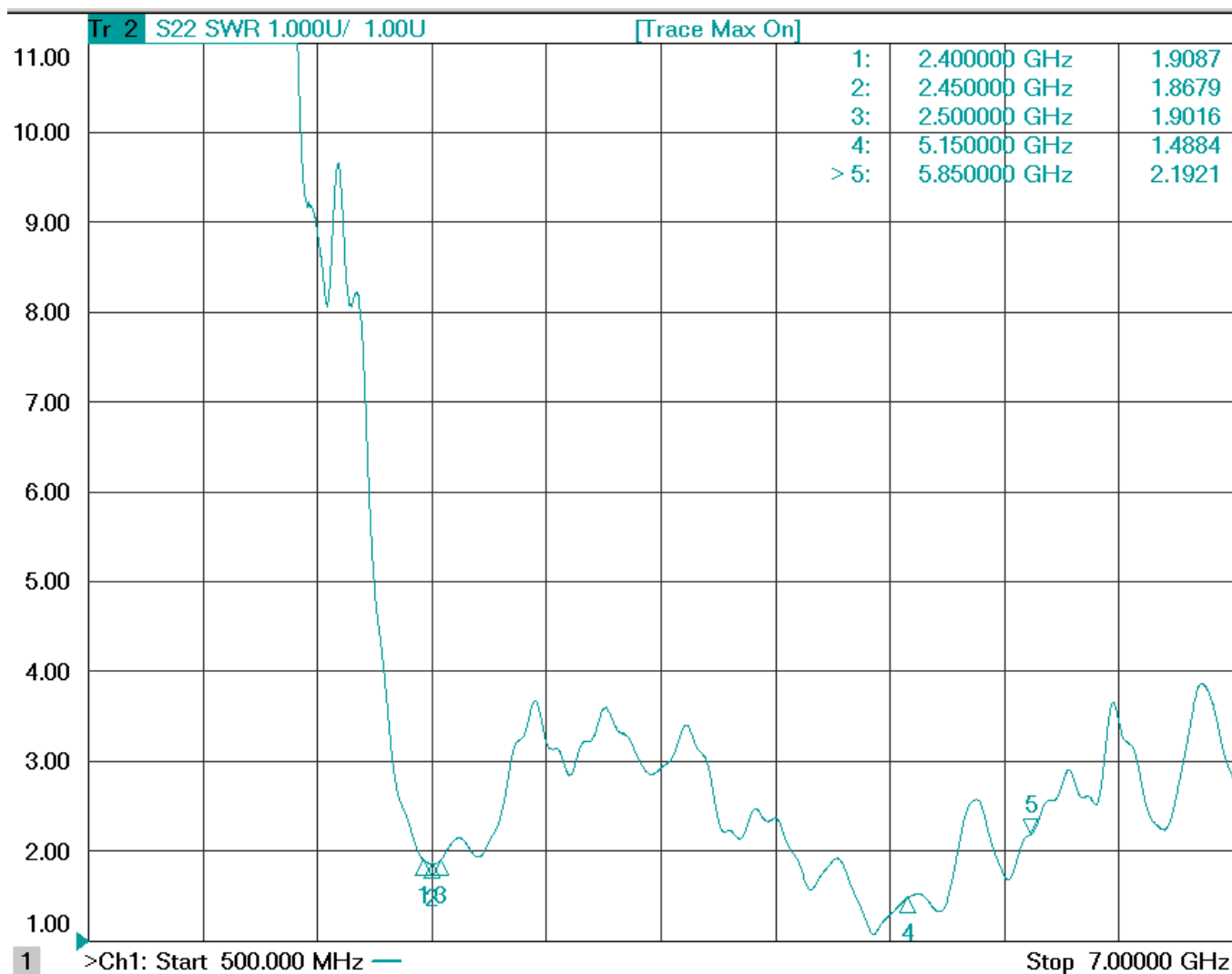
Antenna



| Antenna Band                 | Antenna Dimension | Cable Length | Antenna Material |
|------------------------------|-------------------|--------------|------------------|
| 2400~2500MHz<br>5150~5850MHz | 29x10x0.4mm       | 215mm        | PCB +Cu foil     |



# Antenna VSWR





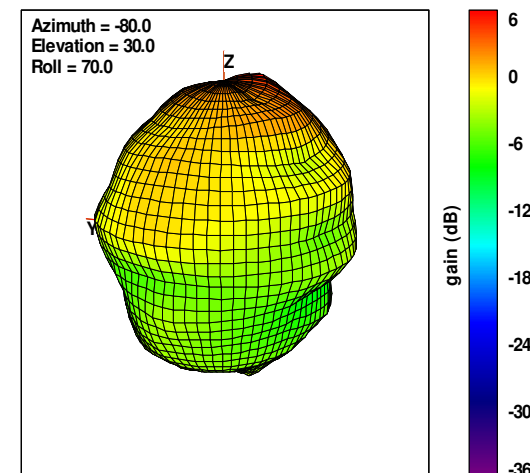
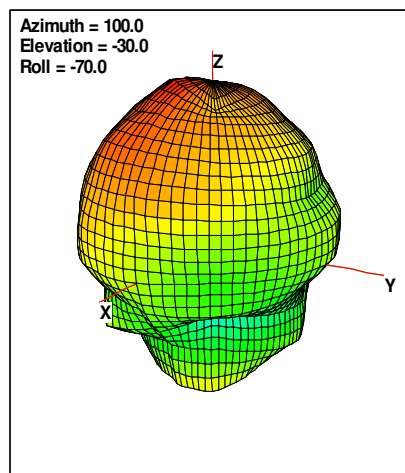
# Antenna Test Results- Gain Table

| Frequency<br>MHz | Peak Gain | Efficiency |       |
|------------------|-----------|------------|-------|
|                  | dBi       | dBi        | %     |
| 2400             | 5.73      | -2.01      | 62.93 |
| 2442             | 6.25      | -2.14      | 61.05 |
| 2450             | 6.35      | -2.02      | 62.80 |
| 2484             | 6.60      | -1.87      | 64.96 |
| 2500             | 6.67      | -1.78      | 66.34 |
| 5150             | 2.38      | -2.79      | 52.61 |
| 5250             | 1.96      | -3.11      | 48.82 |
| 5350             | 2.88      | -3.25      | 47.26 |
| 5470             | 2.03      | -3.62      | 43.41 |
| 5600             | 3.04      | -4.17      | 38.30 |
| 5725             | 1.59      | -4.32      | 37.00 |
| 5785             | 2.72      | -4.46      | 35.81 |
| 5800             | 3.03      | -4.53      | 35.20 |
| 5850             | 2.75      | -4.25      | 37.57 |

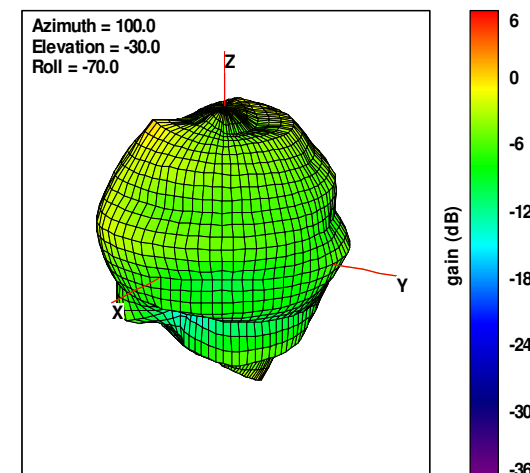
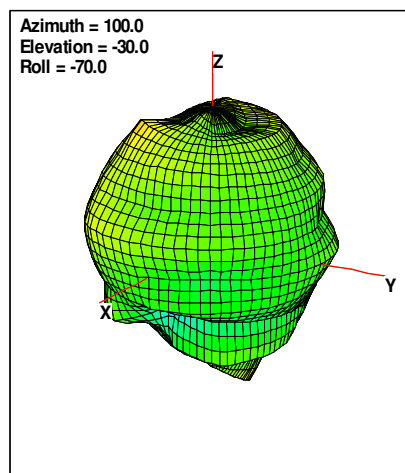


# Antenna Test Results- 3D Pattern

Axis Define



**2450MHz**

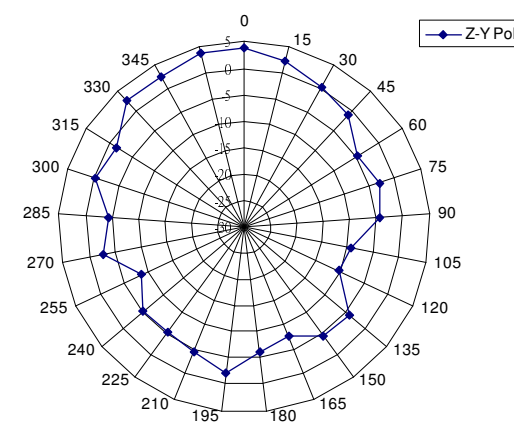
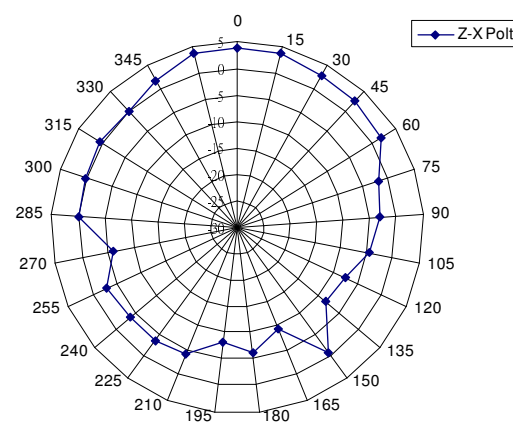
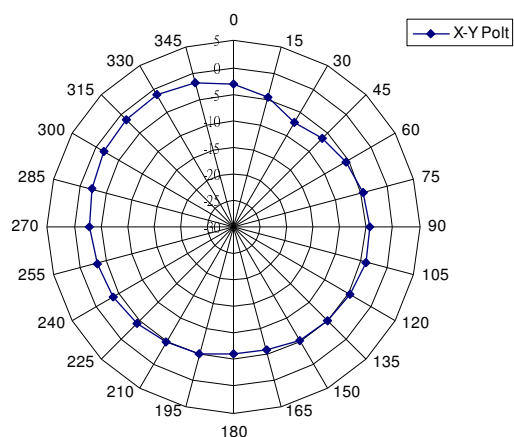


**5470MHz**

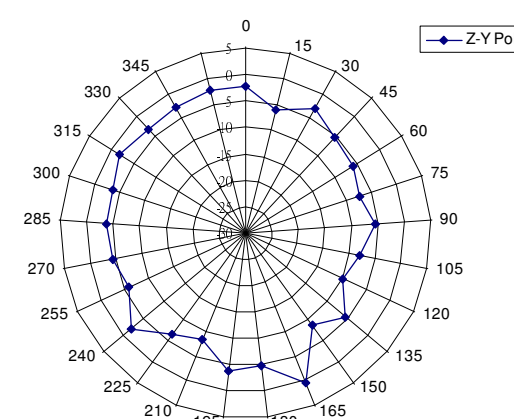
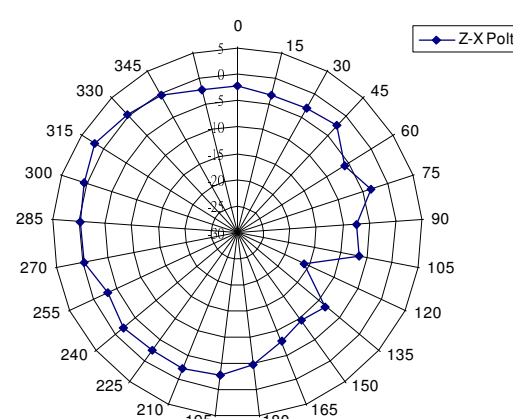
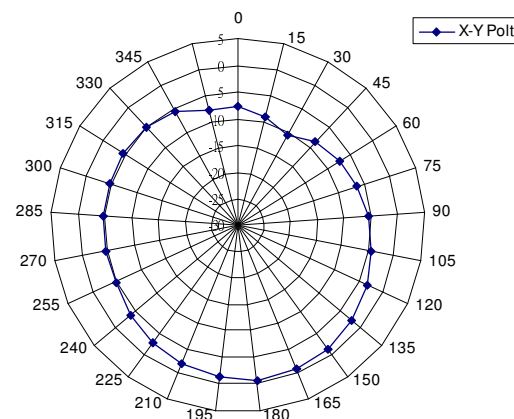


# Antenna Test Results- 2D Pattern

Frequency:2450MHz



Frequency:5470MHz





# Conclusions

- ◆ According to the test results, antenna efficiency are 61~66% and 35~52% at 2400~2500MHz and 5150~5850MHz.

| Frequency<br>MHz | Peak Gain | Efficiency |       |
|------------------|-----------|------------|-------|
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| 2400             | 5.73      | -2.01      | 62.93 |
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| 5800             | 3.03      | -4.53      | 35.20 |
| 5850             | 2.75      | -4.25      | 37.57 |

1. R580 WiFi+BT antenna photo



## 2. Laird WiFi+BT antenna photos

|                                                                                     | Order Number | Description                                                   |
|-------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------|
|    | 001-0001     | 2.4 GHz dipole antenna<br>with reverse polarity SMA connector |
|    | 080-0001     | U.FL to reverse polarity SMA bulkhead cable<br>105 mm         |
|    | 001-0014     | 2.4 GHz FlexPIFA antenna                                      |
|   | 001-0015     | 2.4 GHz FlexNotch antenna                                     |
|  | 001-0030     | 2.4 GHz Metal FlexPIFA antenna with U.FL<br>cable, 100 mm     |