

APPROVAL SHEET

Dipole ANTENNA
5925~7125 MHz Working Frequency
Halogens Free Product
P/N: RFPCA460632IMMB701

Customer : _____
Customer 's Part No. : _____
Approval No. : _____
Issue Date : _____

*Contents in this sheet are subject to change without prior notice.

| Version | Date | Description | Author |
|---------|--------------|-------------|--------|
| V01 | 2021 Dec. | New Release | SHLEE |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
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ELECTRICAL CHARACTERISTICS

| Item | Specification |
|-------------------------|-----------------------|
| Working Frequency Range | 5925~7125 GHz(Note-1) |
| Return Loss | -4.437 dB(Max.) |
| Gain(peak) | -12.6 dBi |
| VSWR | 4 Max. |
| Impedance | 50 Ohm Nominal |
| Radiation | Omni-directional |
| Polarization | Linear Vertical |
| Operation Temperature | -20°C ~ +65°C |

*Note 1. Central Frequency should be defined after customers' application approval.

MATERIAL TABLE

| Items | Description |
|-----------|----------------------|
| Antenna | PCB FR4 T=0.8mm(綠漆板) |
| Cable | Ø1.37 Cable (Black) |
| Connector | IPEX(Gold) |

ORDERING RULE

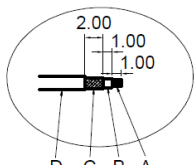
| RF | PCA | 4606 | 32 | I | M | M | B | 7 | 01 |
|------------------|----------------|---|---|--|---|---|---------------------------------------|--|---------------------|
| Type Code | Product Code | PCB Dimension (Unit: mm) | Cable Length (unit: cm) | Connector Brand | Type of Connector | Application | Project status | Wire Diameter | Project |
| Walsin RF Device | Dipole Antenna | Per 2 digits of length, width e.g.: 3015 Length 30mm, Width 15mm | 2 digits for cable length e.g.: 09 Length 9cm | A: N C:MCX D:IPEX III E: IPEX IV F: IPEX A13 H: Hirose I: IPEX M: MMCX S: SMA T: TNC U:MURATA N: None | A: Reverse Female B: Reverse Male F: Female M: Male N: None | 0: 0GHz 3: 3GHz 5: 5GHz 6: 6GHz A: 2.4GHz ISM band B: GSM 900/1800 dual band G: GPS band L: 2.4/5.2/5.8 GHz tri-band M:5150~7150MHz N: NFC T: LTE band W: WCDMA band | B: MP T:During Test X: Pile Run | 0:None 1:∅ 0.81 2:∅ 1.32 3:∅ 1.13 4:Low Loss ∅ 1.13 5:∅ 0.5 6:RG316 7: ∅ 1.37 8:RG178 9:Low Loss ∅ 1.37 | 01~99 series number |

Dimensions

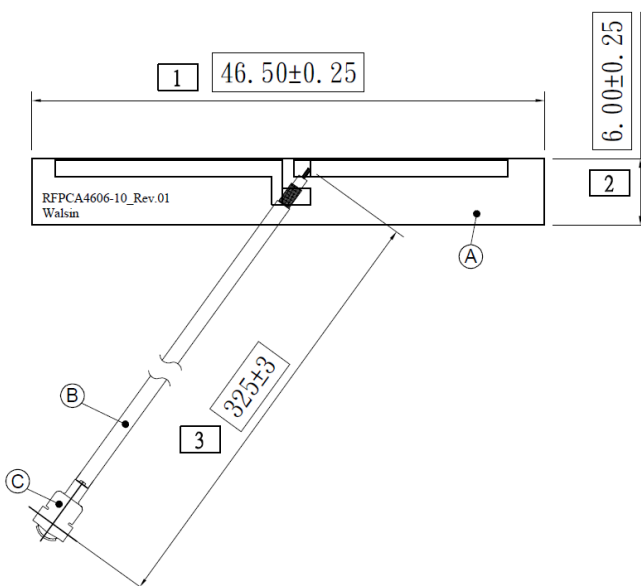
ELECTRICAL

Frequency : 5925~7125 MHz

| NO | DESCRIPTION | Color | QTY |
|----|---------------------------------------|-------|-----|
| A | Body PCB FR4(Single Layer),T=0.8mm | Green | 1 |
| B | Coaxial cable ($\phi 1.37$) | Black | 1 |
| C | Connector IPEX(2121500773) | Gold | 1 |



A - center conductor
B - Dielectric
C - Outer conductor
D - Jacket



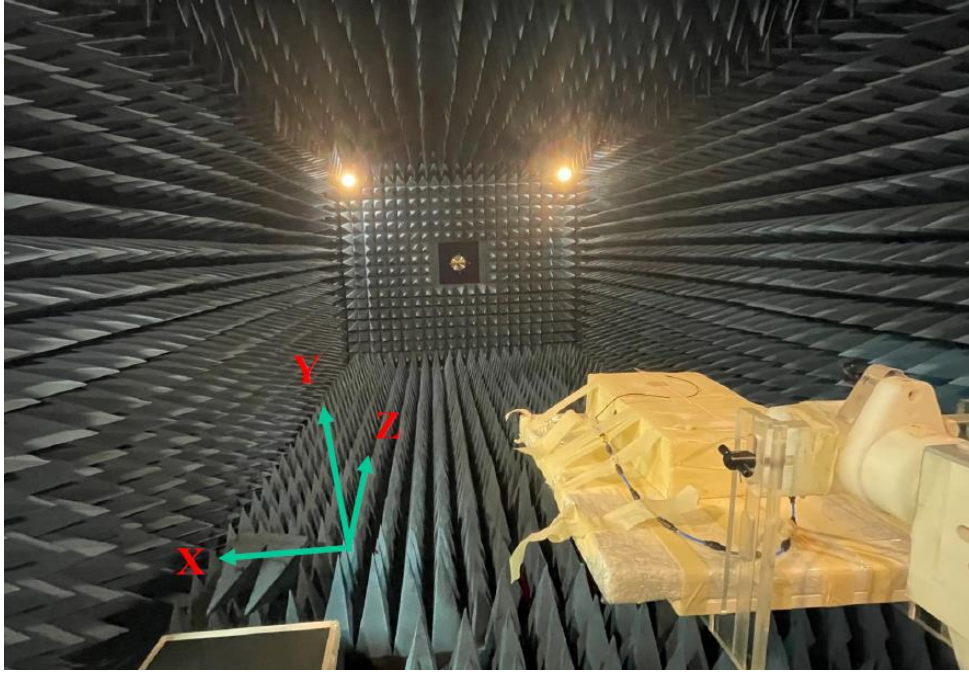
IPEX方向:
100mm : $\pm 90^\circ$
200mm : $\pm 135^\circ$
200mm以上不管控

※標記□記號者, 為重點檢驗尺寸

| | | | | | | | |
|--|--|--|--|----------------------------|------------|--------------------|---------|
| | | | | 設計 DR. SHLEE | 2021.12.07 | 品名 | 版本 REV. |
| | | | | 核准 APP. MARCO | | ARTICLE | A |
| | | | | 容許公差 TOLERANCE | | RFPCA460632IMMB701 | |
| | | | | 6以下..... ± 0.2 | | 單位 UNIT | |
| | | | | 6以上~30..... ± 0.5 | | mm | |
| | | | | 30以上~120..... ± 0.8 | | 比例 SCALE | |
| | | | | 120以上~315..... ± 1.2 | | **** | |
| | | | | 315以上~1000..... ± 2.0 | | 張數 SHEET | |
| | | | | 1000以上~2000..... ± 3.0 | | 1 | |

Test Report

■ Experimental Setup



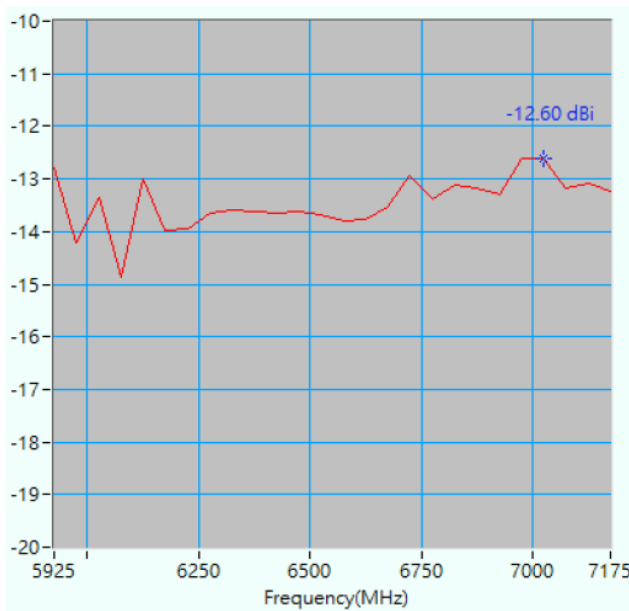
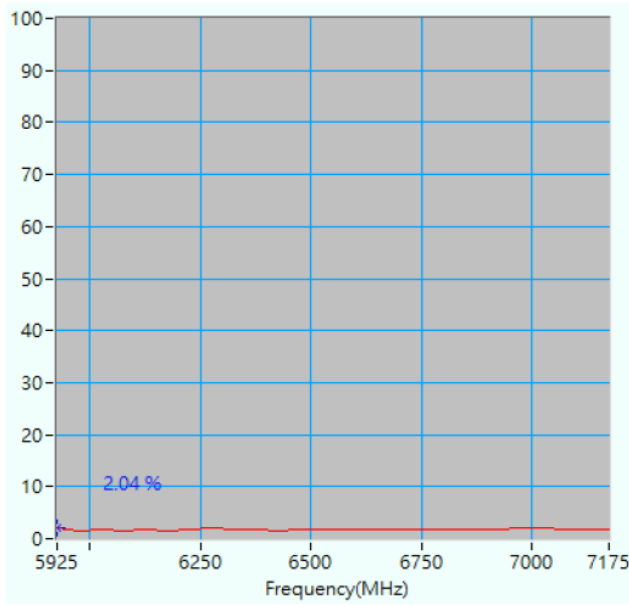
ELECTRICAL CHARACTERISTICS

Return Loss



■ Antenna Efficiency & Peak Gain

5925~7125 MHz



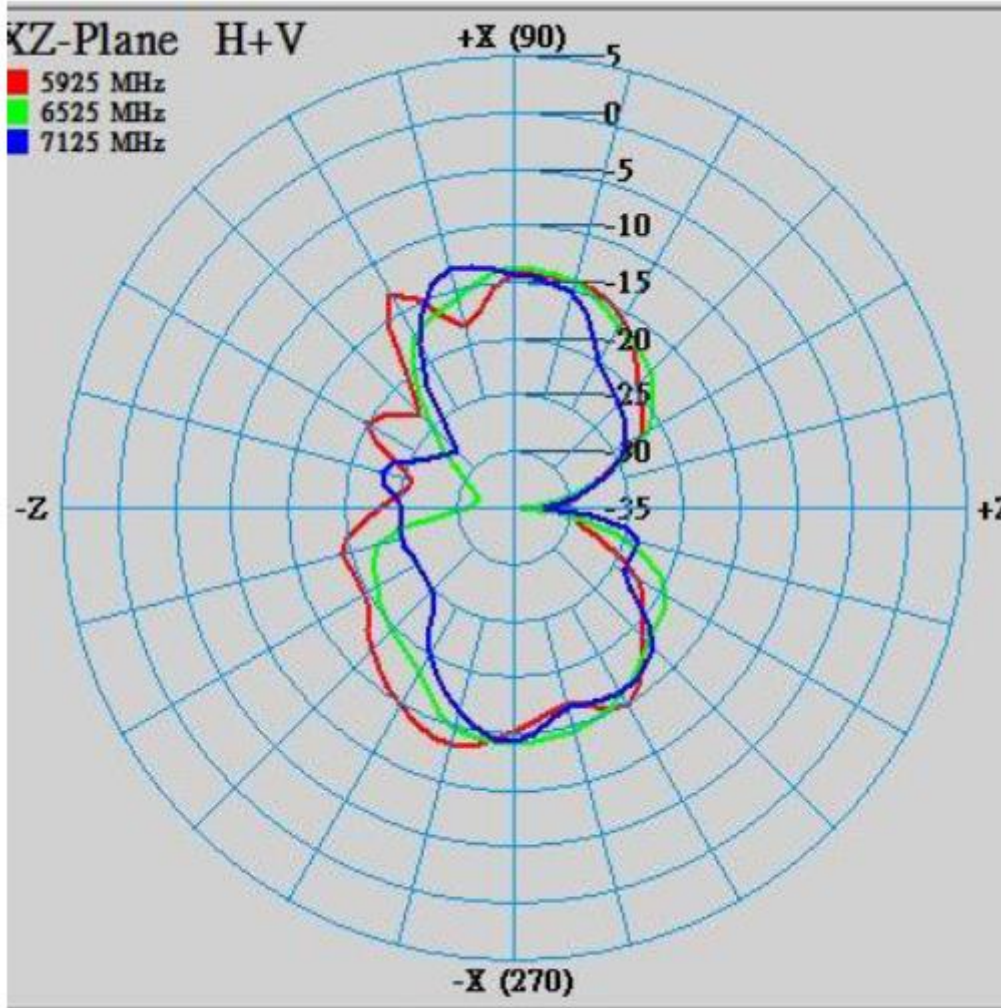
| | | Maximum Efficiency (%) | Peak Gain (dBi) |
|---------|--------------|------------------------|-----------------|
| Antenna | 5925-7125MHz | 2.04 | -12.60 |

RADIATION PATTERN

5925~7125 MHz

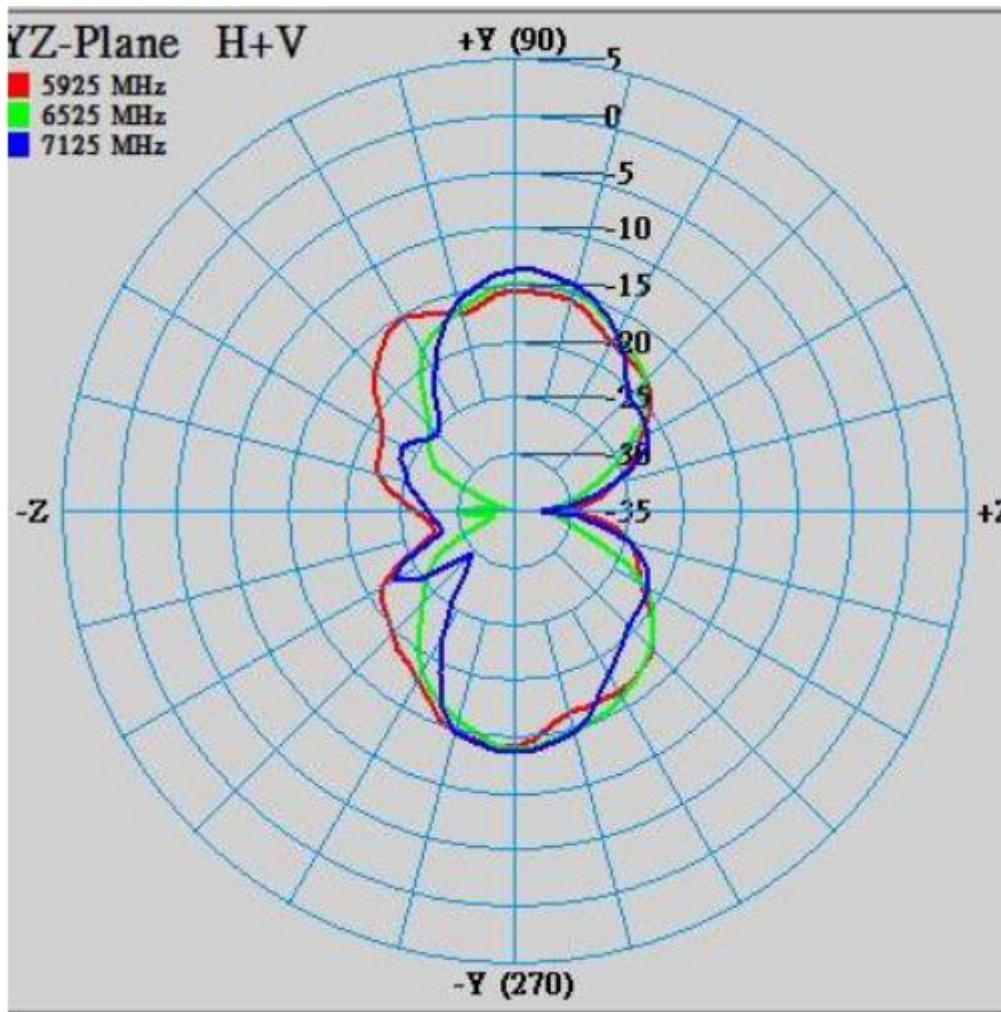
Phi=0.00deg

Gain . dB



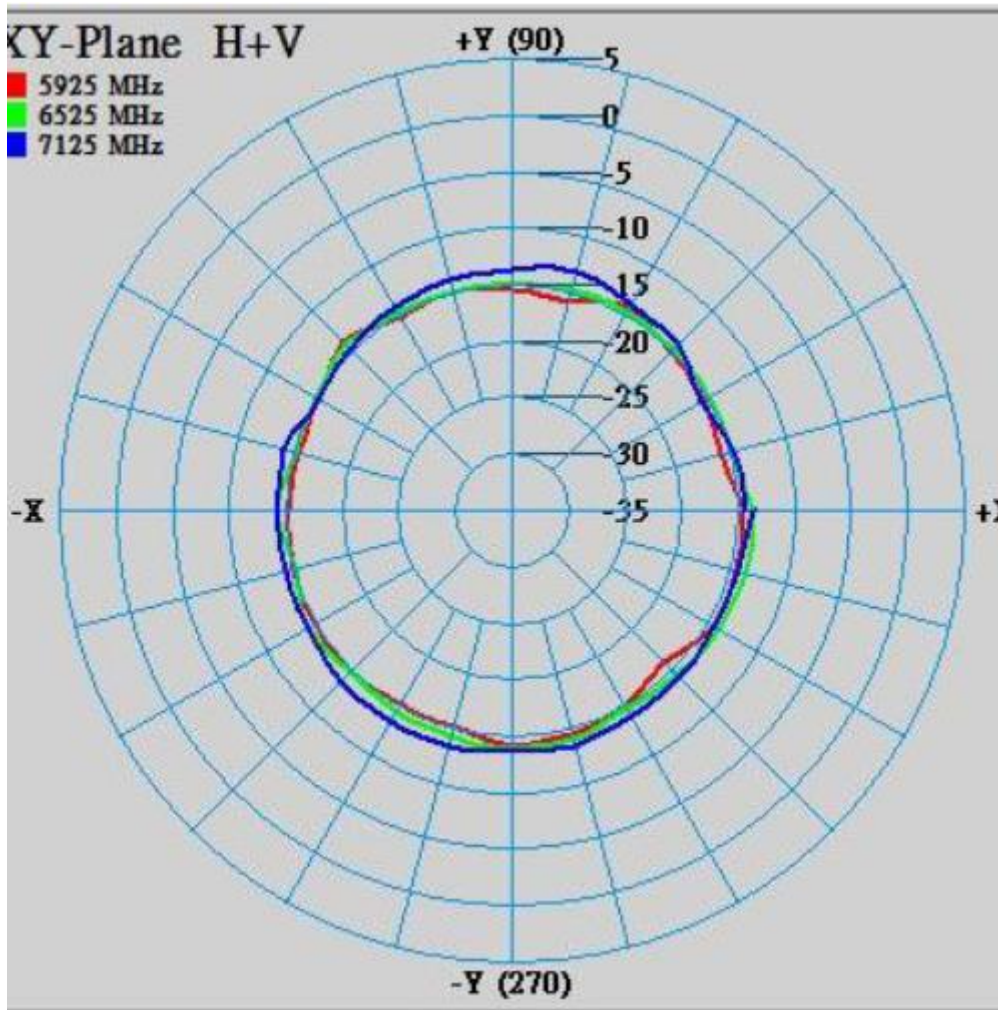
Phi=90.00deg

Gain . dB



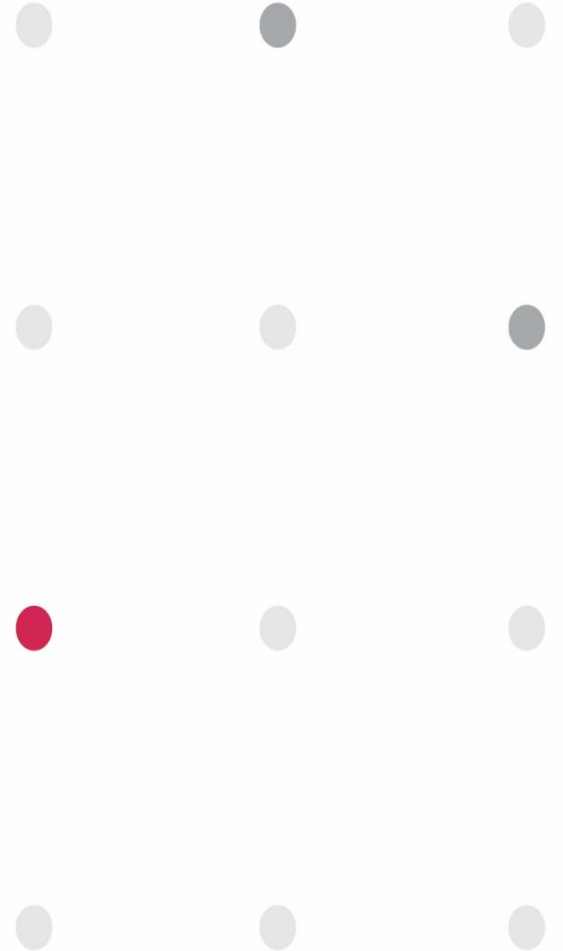
Theta=90.00deg

Gain . dB



| Frequency [MHz] | ZX plane | | ZY plane | | XY plane | |
|-----------------|----------------|--------------|----------------|--------------|----------------|--------------|
| | Max Value [dB] | Average [dB] | Max Value [dB] | Average [dB] | Max Value [dB] | Average [dB] |
| 5925 | -13.20 | -17.49 | -14.23 | -18.27 | -13.96 | -15.19 |
| 6525 | -13.67 | -18.02 | -13.97 | -18.77 | -13.67 | -14.73 |
| 7125 | -13.17 | -18.78 | -13.61 | -18.69 | -13.09 | -14.27 |

PSA



PASSIVE SYSTEM ALLIANCE
WALSIN TECHNOLOGY CORPORATION

MTK

Low gain antenna 5925-7125MHz_Dipole-type

Presented by

Nick Hsia

Walsin Technology Corporation

2021/11/26

OUTLINE

1. Measurement Information

1.1 Experimental Setup

1.2 Antenna Solution Detail

2. Antenna Characteristics

2.1 Returnloss

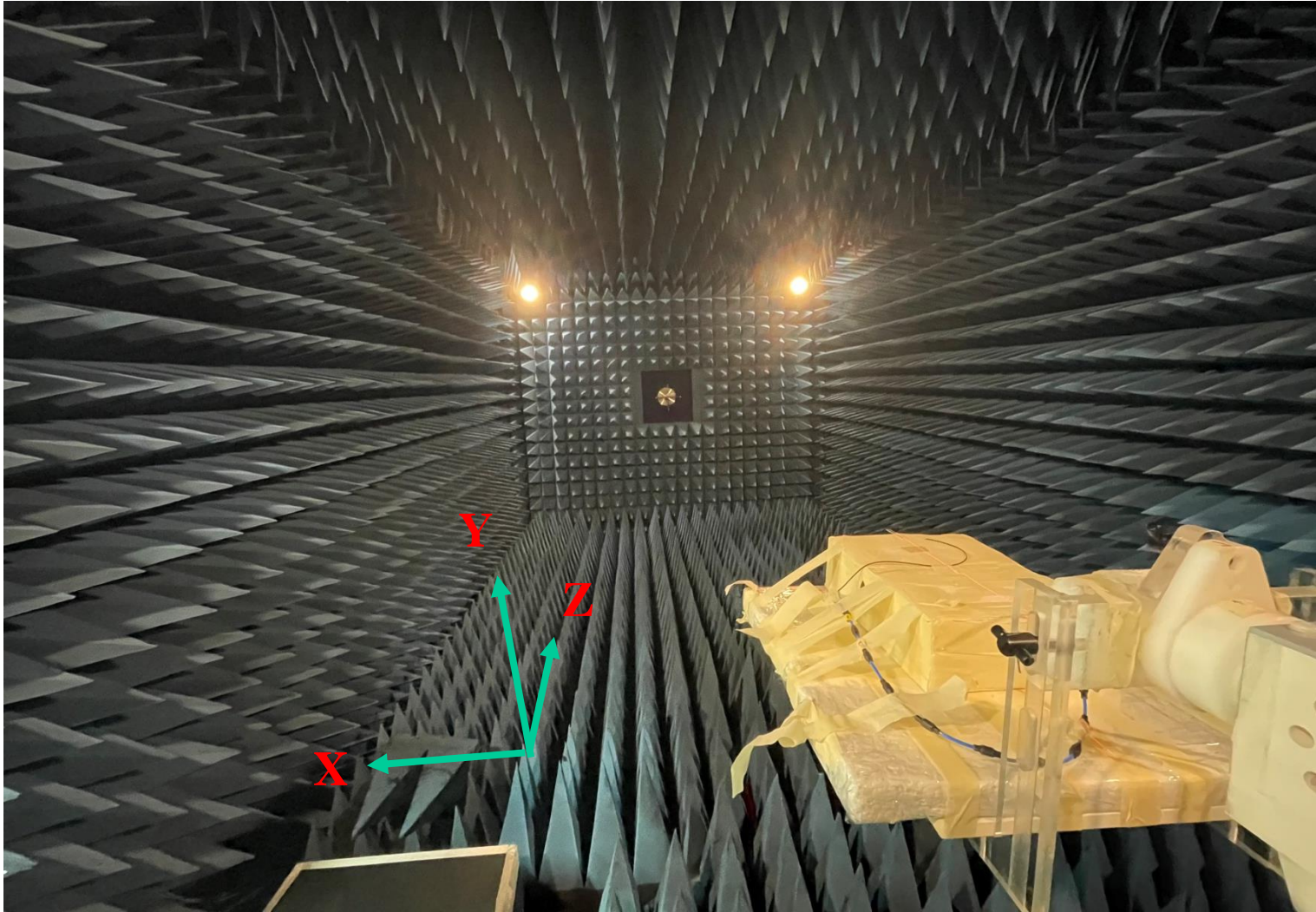
2.2 Antenna Efficiency and Peak Gain

2.3 2D Radiation Patterns

3. Summary

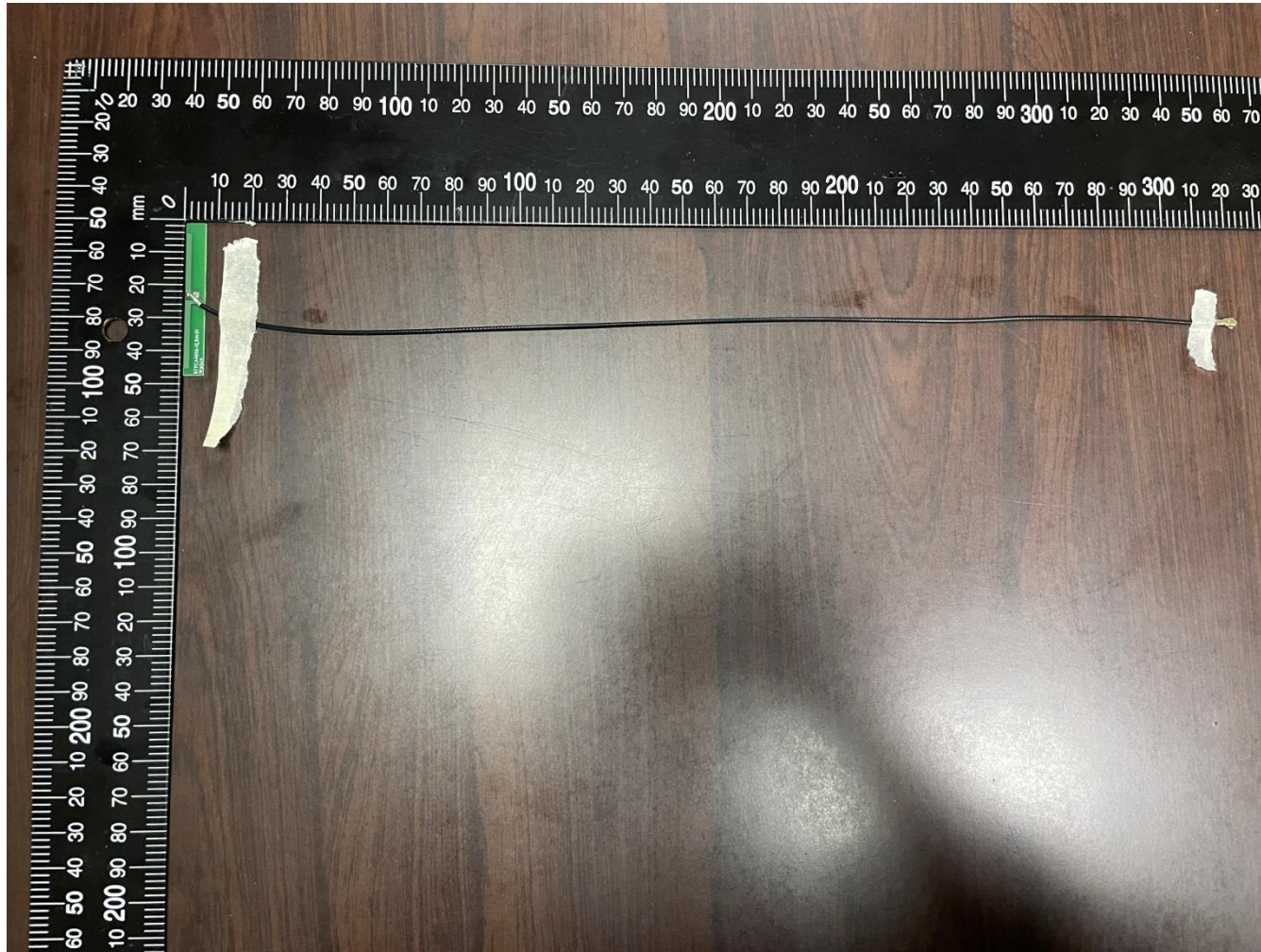
1. Measurement Information

1.1 Experimental Setup



1. Measurement Information

1.2 Antenna Solution Detail



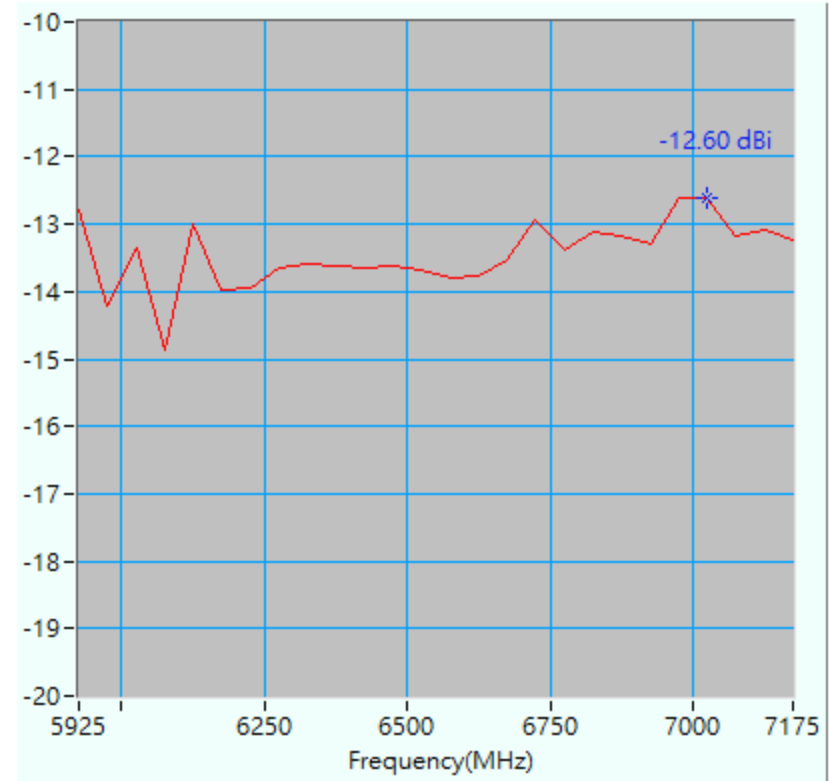
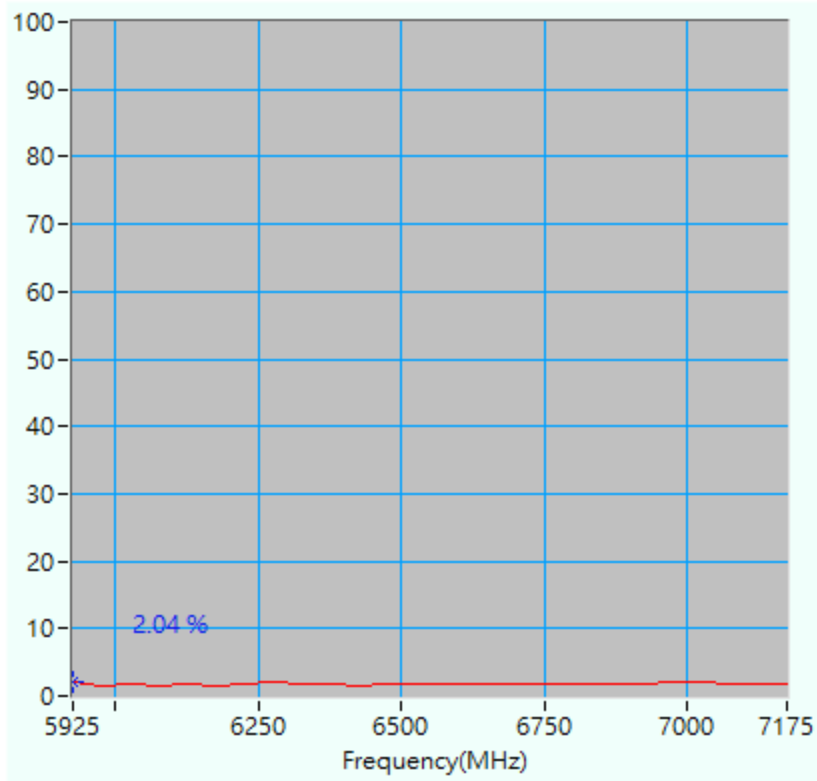
2. Antenna Characteristics

2.1 Returnloss



2. Antenna Characteristics

2.2 Antenna Efficiency and peak gain



2. Antenna Characteristics

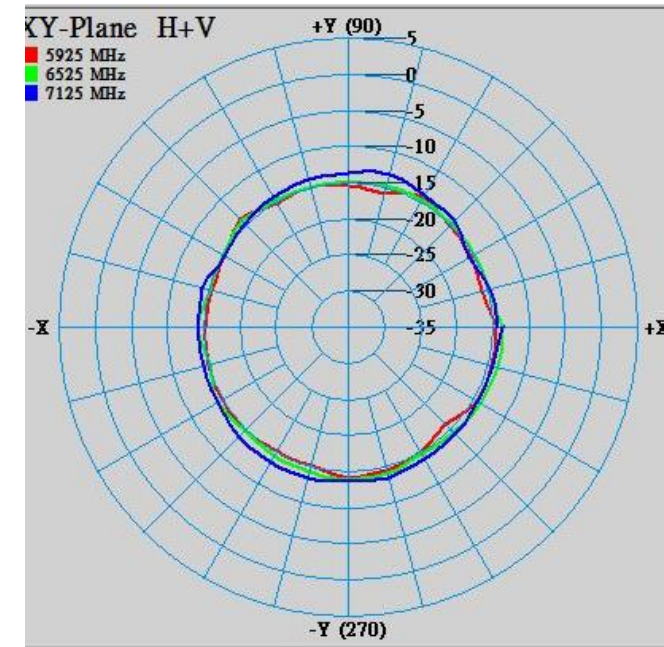
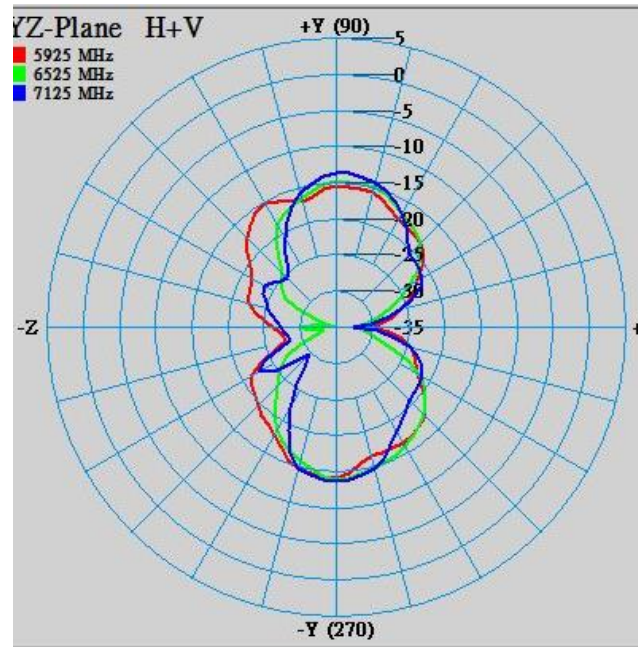
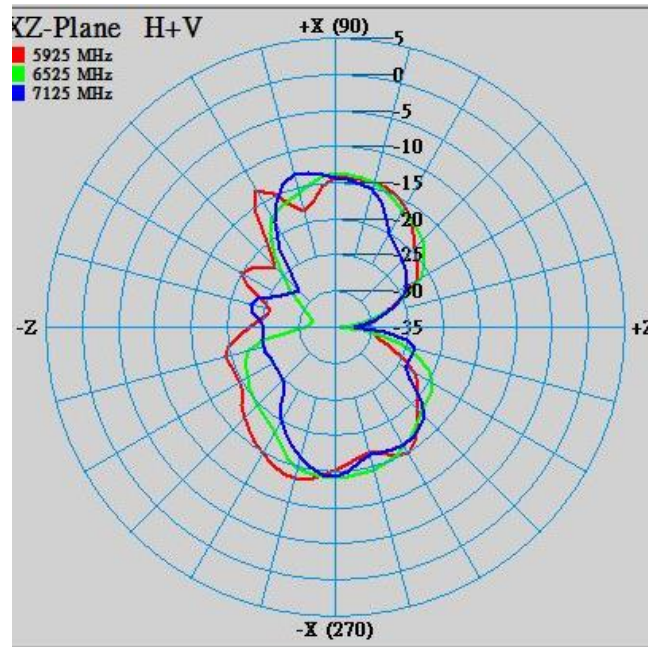
- The performance of antennas is shown in table.

| Antenna | Frequency(MHz) | Efficiency (%) | Peak Gain (dBi) |
|---------|----------------|----------------|-----------------|
| | 5925 | 2.04 | -12.79 |
| | 5975 | 1.55 | -14.21 |
| | 6025 | 1.79 | -13.34 |
| | 6075 | 1.48 | -14.87 |
| | 6125 | 1.63 | -13.00 |
| | 6175 | 1.54 | -13.99 |
| | 6225 | 1.80 | -13.95 |
| | 6275 | 1.98 | -13.66 |
| | 6325 | 1.64 | -13.59 |
| | 6375 | 1.81 | -13.63 |
| | 6425 | 1.57 | -13.66 |
| | 6475 | 1.71 | -13.61 |
| | 6525 | 1.81 | -13.67 |
| 6575 | 1.79 | -13.79 | |

| Antenna | Frequency(MHz) | Efficiency (%) | Peak Gain (dBi) |
|---------|----------------|----------------|-----------------|
| | 6625 | 1.68 | -13.77 |
| | 6675 | 1.69 | -13.52 |
| | 6725 | 1.90 | -12.94 |
| | 6775 | 1.85 | -13.37 |
| | 6825 | 1.75 | -13.13 |
| | 6875 | 1.72 | -13.17 |
| | 6925 | 1.81 | -13.30 |
| | 6975 | 1.96 | -12.62 |
| | 7025 | 2.02 | -12.60 |
| | 7075 | 1.71 | -13.19 |
| | 7125 | 1.67 | -13.09 |

2. Antenna Characteristics

2.3 2D Radiation Patterns



| Frequency [MHz] | ZX plane | | ZY plane | | XY plane | |
|-----------------|----------------|--------------|----------------|--------------|----------------|--------------|
| | Max Value [dB] | Average [dB] | Max Value [dB] | Average [dB] | Max Value [dB] | Average [dB] |
| 5925 | -13.20 | -17.49 | -14.23 | -18.27 | -13.96 | -15.19 |
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3. Summary

- The performance of antennas is shown in table.

| | | Maximum Efficiency (%) | Peak Gain (dBi) |
|---------|--------------|------------------------|-----------------|
| Antenna | 5925-7125MHz | 2.04 | -12.60 |

Thank you

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