# DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

# SPECIFICATION FOR APPROVAL

| | |
|---|---|
| Date | 2025/06/24 |
| File No | 25062401 |
| Revision | 1.0 |

CUSTOMER: FJ Dynamics Technology Co., Ltd.

CUSTOMER NO: YTX-TX-003066-1A

PART NAME: 4G MAIN Antenna L=215mm MHF

SUPPLIER NO: YJF01.085.029.301A

Date: Q'TY:

| CUSTOMER APPROVED BY | | |
|---|---|---|
| APPROVAL | CHIEF | SUPERVISOR |
| | | |

| SUPPLIER SIGNATURE | | |
|---|---|---|
| APPROVAL | CHECK | DESIGN |
| ChenGuoqiang | XieLi | ChenXingyi |

YJ-RD-F04-A

# Spec Item


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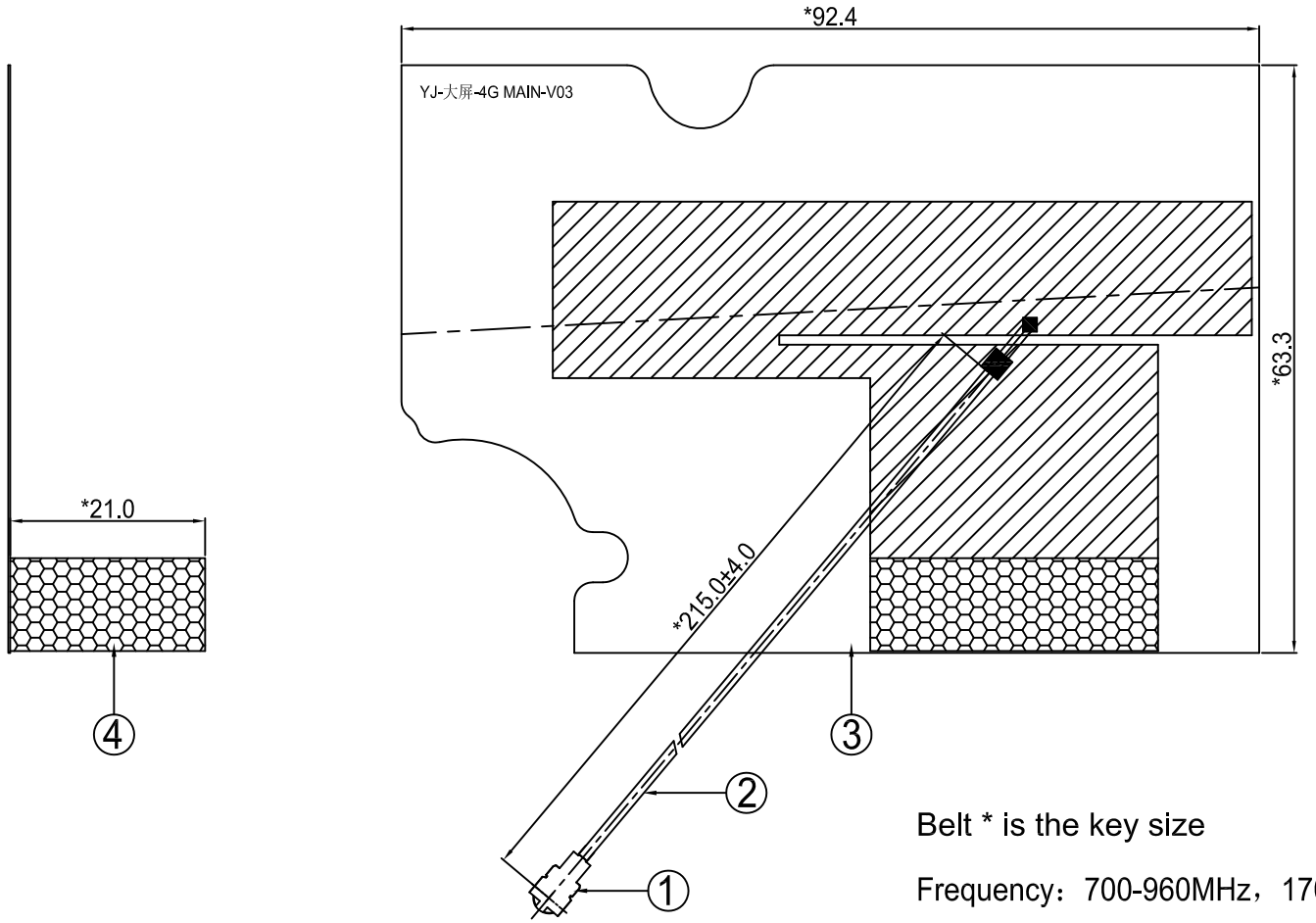
| 12 | - | - | - |
| 13 | - | - | - |

RoHS Compatible

| | |
|---|---|
| CUSTOMER | |
| PART NO | |

| REV. | DESCRIPTION | DATE |
|---|---|---|
| A | Initial release | 2024-08-24 |
| B | ModifyFPC | 2024-09-09 |




Belt * is the key size

Frequency：700-960MHz，1700-2700MHz

| NO | PART NAME | DESCRIPTION | Material | Q.TY |
|---|---|---|---|---|
| 4 | EMI Gasket | 31.0*10.0*T21.0mm | EMI Gasket | 1 |
| 3 | FPC | 92.4*63.3mm | FPC | 1 |
| 2 | Coaxial Cable | O.D.1.37 Black Low loss | O.D.1.37 | 1 |
| 1 | Mini Connector | Au Plated 1 Generation | Cu | 1 |

DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

PART NAME: 4G MAIN Antenna L=215mm MHF

PART NO.: YJF01.085.029.301A | DATE: 2024-09-09

| APPROVED BY | CHECKED BY | DESIGNED BY | |
|---|---|---|---|
| Zhou Sheng | Zhou Yingjie | Liao Guangxi | UNITS: mm<br>SCALE: 1/1<br>REVISION: B |

Tolerance
X.X ±0.50
X.XX±0.15
X° ±3°

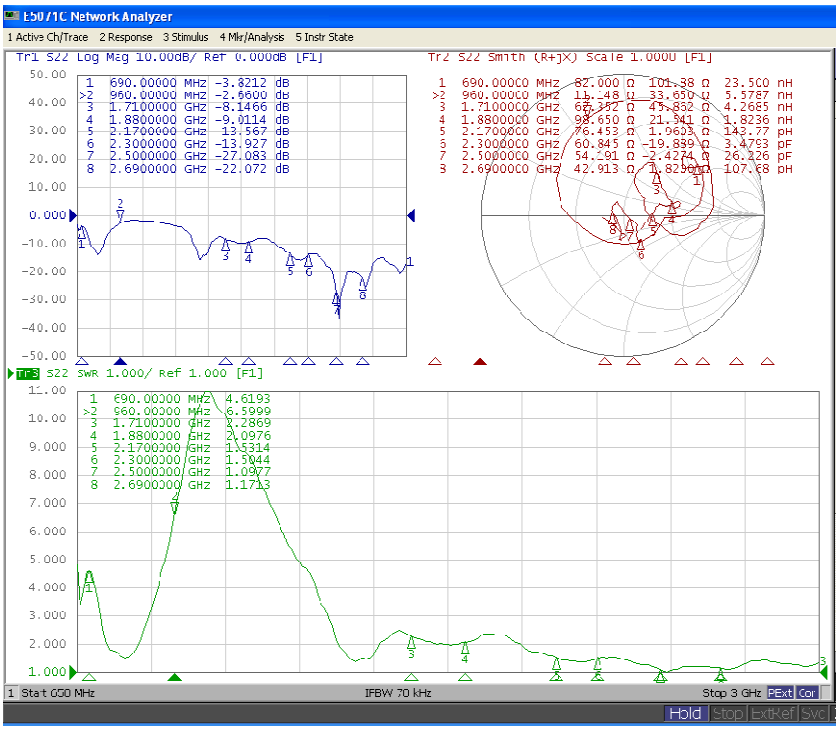
# DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

# Antenna Specification

| Electrical Properties | |
|---|---|
| Frequency | 700-960MHz<br>1700-2700MHz |
| Impedance | 50 Ohm Nominal |
| V.S.W.R | 7.0 Max@700-960MHz<br>2.5 Max@1700-2700MHz |
| Gain | 1.5 dBi@700-960MHz<br>2.9 dBi@1700-2700MHz |
| Radiation | Omni-directional |
| Polarization | Linear |
| **Physical Properties** | |
| Connector | 1 Generation IPEX |
| Cable Type | O.D.1.37mm Low loss |
| Cable Length | 215mm |
| Cable Color | Black |
| Operating Temp. | -40 ~ +85 ˚C |
| Storage Temp / Humidity | 25±5˚C / <70% |

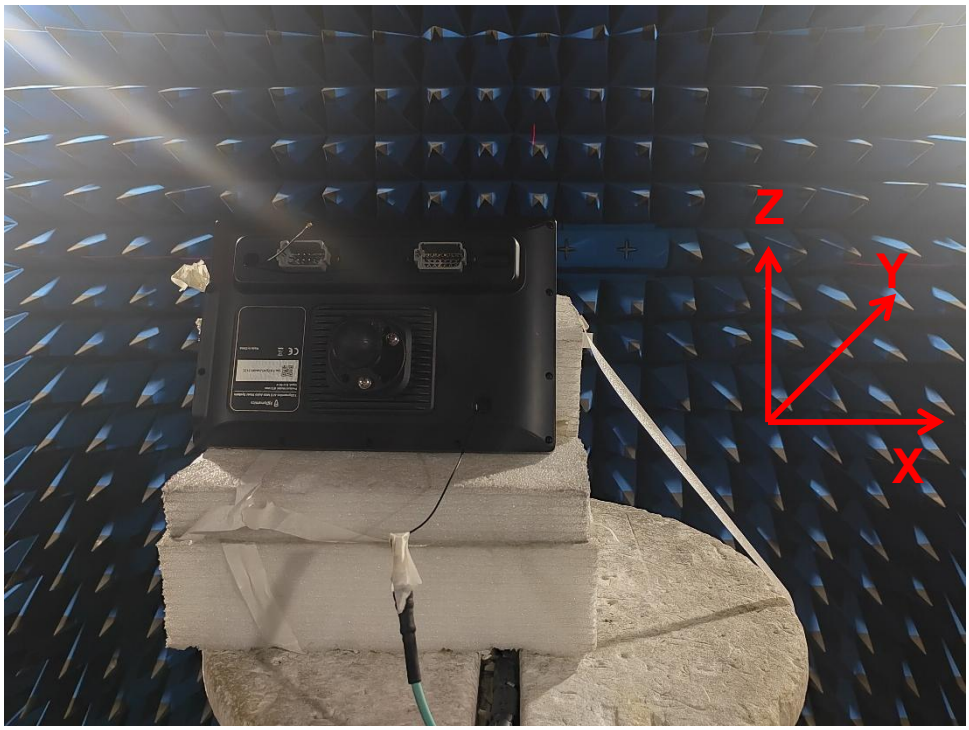
# DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

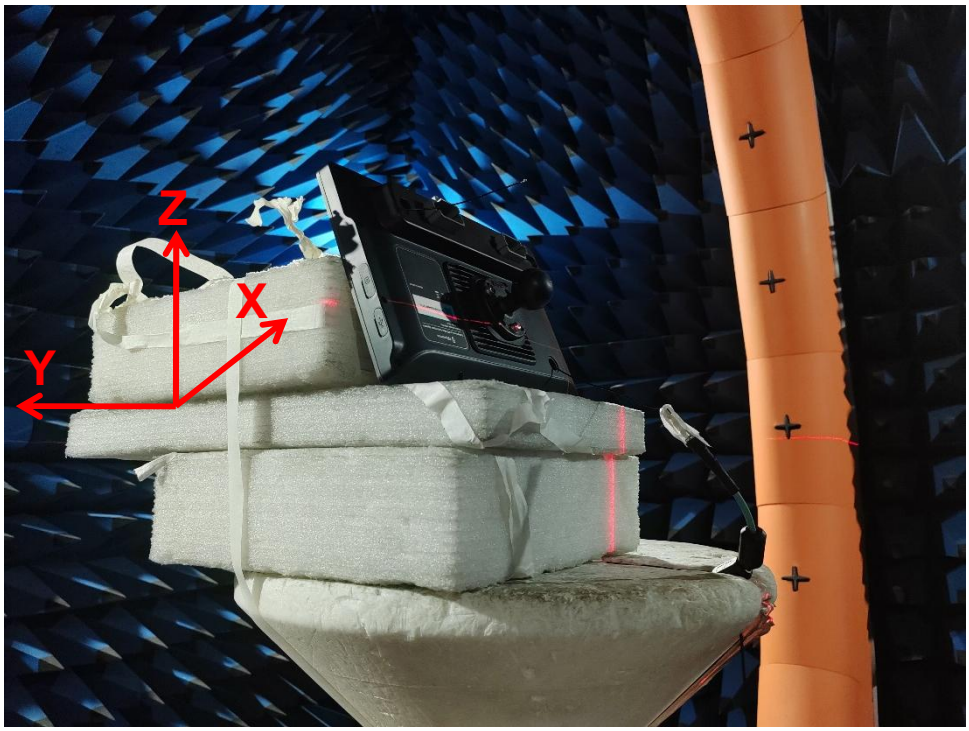
***Agilent E5071C S Parameter Test // LTE Main Antenna***




Yuanfu Industrial Park, No.59, Muyu Road, Shatou Community, Chang'an Town, Dongguan, Guangdong

# *Antenna Passive Test*



# DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

| Passive Test For LTE Main Antenna | | | |
|---|---|---|---|
| Freq (MHz) | Effi (%) | Effi (dB) | Gain (dBi) |
| 690 | 23.4 | -6.3 | -2.5 |
| 700 | 25.0 | -6.0 | -1.8 |
| 710 | 26.7 | -5.7 | -1.4 |
| 720 | 28.3 | -5.5 | -1.6 |
| 730 | 30.9 | -5.1 | -1.1 |
| 740 | 33.7 | -4.7 | -0.2 |
| 750 | 38.2 | -4.2 | 1.1 |
| 760 | 40.4 | -3.9 | 1.5 |
| 770 | 40.8 | -3.9 | 1.3 |
| 780 | 40.1 | -4.0 | 1.1 |
| 790 | 39.7 | -4.0 | 0.7 |
| 800 | 38.7 | -4.1 | 0.0 |
| 810 | 40.2 | -4.0 | 0.8 |
| 820 | 39.7 | -4.0 | 1.4 |

# DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

| Passive Test For LTE Main Antenna | | | |
|---|---|---|---|
| Freq (MHz) | Effi (%) | Effi (dB) | Gain (dBi) |
| 830 | 39.0 | -4.1 | 1.5 |
| 840 | 37.7 | -4.2 | 0.7 |
| 850 | 36.6 | -4.4 | 0.0 |
| 860 | 34.3 | -4.7 | -0.7 |
| 870 | 31.8 | -5.0 | -1.0 |
| 880 | 30.5 | -5.2 | -1.2 |
| 890 | 28.5 | -5.5 | -1.6 |
| 900 | 27.8 | -5.6 | -1.6 |
| 910 | 27.5 | -5.6 | -1.5 |
| 920 | 28.5 | -5.5 | -0.9 |
| 930 | 28.3 | -5.5 | -0.5 |
| 940 | 28.3 | -5.5 | -0.4 |
| 950 | 26.1 | -5.8 | -0.8 |
| 960 | 23.3 | -6.3 | -1.4 |

# DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

| Passive Test For LTE Main Antenna | | | |
|---|---|---|---|
| Freq (MHz) | Effi (%) | Effi (dB) | Gain (dBi) |
| 1700 | 57.5 | -2.4 | 2.5 |
| 1720 | 59.0 | -2.3 | 2.9 |
| 1740 | 56.1 | -2.5 | 2.4 |
| 1760 | 55.5 | -2.6 | 2.2 |
| 1780 | 55.6 | -2.6 | 2.0 |
| 1800 | 58.2 | -2.4 | 2.3 |
| 1820 | 59.4 | -2.3 | 2.7 |
| 1840 | 56.2 | -2.5 | 2.4 |
| 1860 | 54.5 | -2.6 | 2.2 |
| 1880 | 50.0 | -3.0 | 1.7 |
| 1900 | 52.1 | -2.8 | 2.5 |
| 1920 | 53.3 | -2.7 | 2.6 |
| 1940 | 49.6 | -3.1 | 2.0 |
| 1960 | 49.8 | -3.0 | 2.0 |

# DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

| Passive Test For LTE Main Antenna | | | |
|---|---|---|---|
| Freq (MHz) | Effi (%) | Effi (dB) | Gain (dBi) |
| 1980 | 49.2 | -3.1 | 2.3 |
| 2000 | 49.3 | -3.1 | 2.5 |
| 2020 | 50.7 | -3.0 | 2.5 |
| 2040 | 54.5 | -2.6 | 2.7 |
| 2060 | 55.0 | -2.6 | 2.8 |
| 2080 | 56.2 | -2.5 | 2.9 |
| 2100 | 55.3 | -2.6 | 2.3 |
| 2120 | 54.5 | -2.6 | 1.7 |
| 2140 | 54.6 | -2.6 | 1.6 |
| 2160 | 57.0 | -2.4 | 1.8 |
| 2180 | 60.3 | -2.2 | 2.0 |

# DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

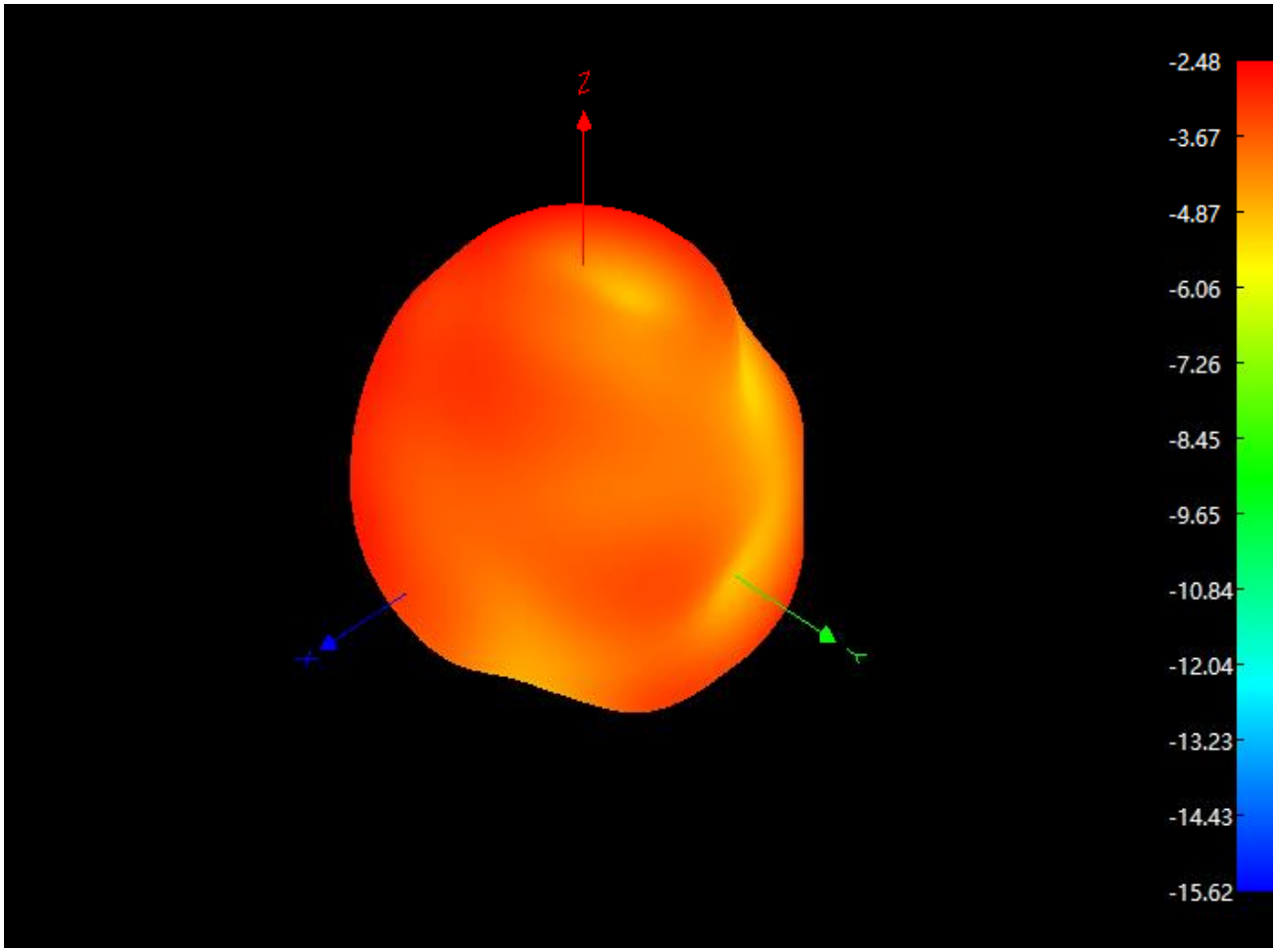
| Passive Test For LTE Main Antenna | | | |
|---|---|---|---|
| Freq (MHz) | Effi (%) | Effi (dB) | Gain (dBi) |
| 2300 | 61.1 | -2.1 | 1.7 |
| 2320 | 59.8 | -2.2 | 1.9 |
| 2340 | 60.4 | -2.2 | 1.9 |
| 2360 | 61.1 | -2.1 | 1.9 |
| 2380 | 61.2 | -2.1 | 2.1 |
| 2400 | 60.7 | -2.2 | 2.4 |
| 2420 | 60.4 | -2.2 | 2.6 |
| 2440 | 61.9 | -2.1 | 2.8 |
| 2460 | 61.7 | -2.1 | 2.7 |
| 2480 | 58.1 | -2.4 | 2.5 |
| 2500 | 55.0 | -2.6 | 2.0 |

# DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

| Passive Test For LTE Main Antenna | | | |
|---|---|---|---|
| Freq (MHz) | Effi (%) | Effi (dB) | Gain (dBi) |
| 2520 | 55.0 | -2.6 | 1.8 |
| 2540 | 57.0 | -2.4 | 1.9 |
| 2560 | 58.2 | -2.4 | 1.8 |
| 2580 | 56.5 | -2.5 | 1.5 |
| 2600 | 55.9 | -2.5 | 1.5 |
| 2620 | 57.0 | -2.4 | 1.8 |
| 2640 | 56.5 | -2.5 | 1.7 |
| 2660 | 54.5 | -2.6 | 1.4 |
| 2680 | 55.3 | -2.6 | 1.3 |
| 2700 | 56.4 | -2.5 | 1.5 |

# DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

## Radiation Pattern For LTE Main Antenna（690MHz）



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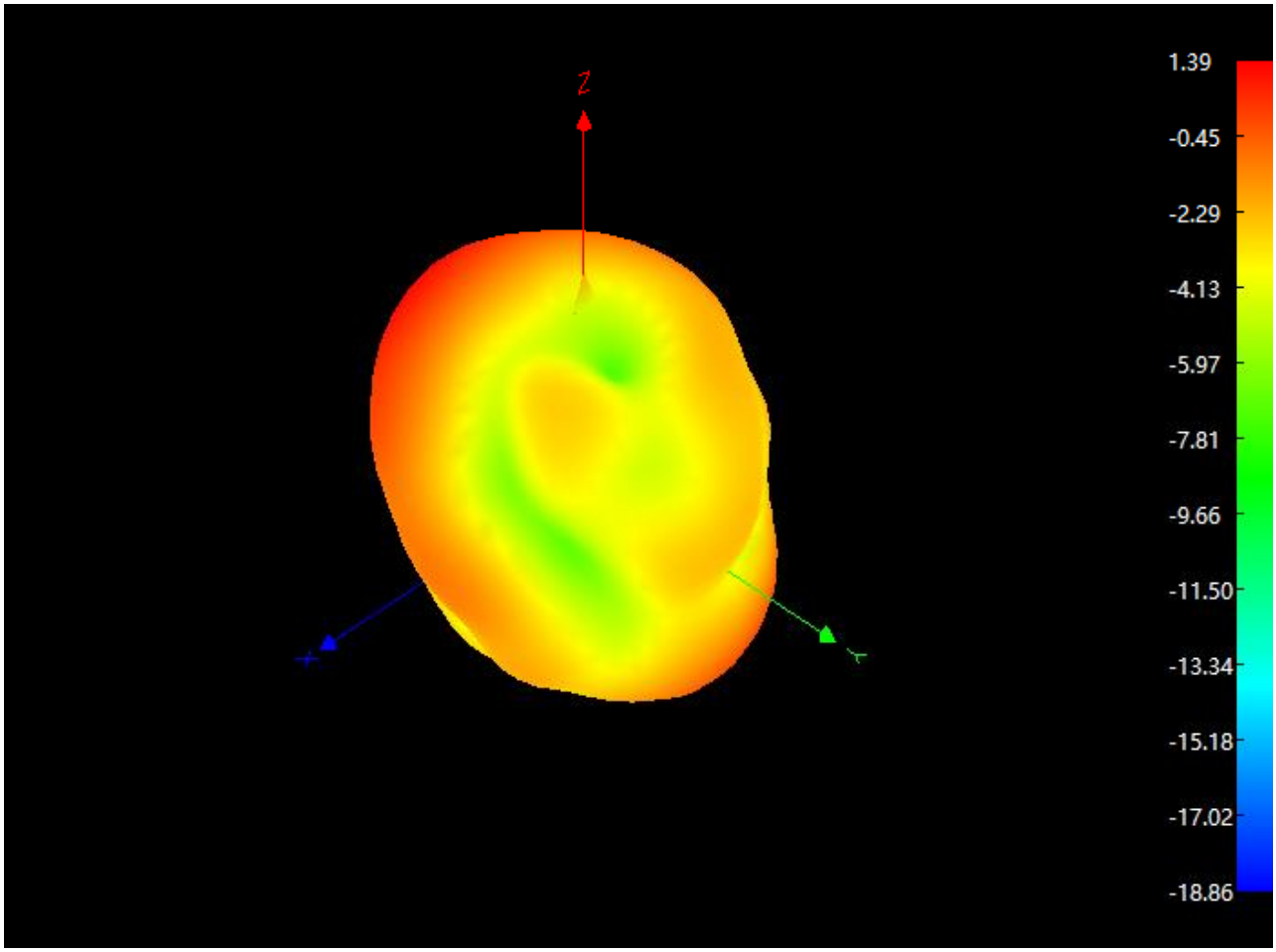
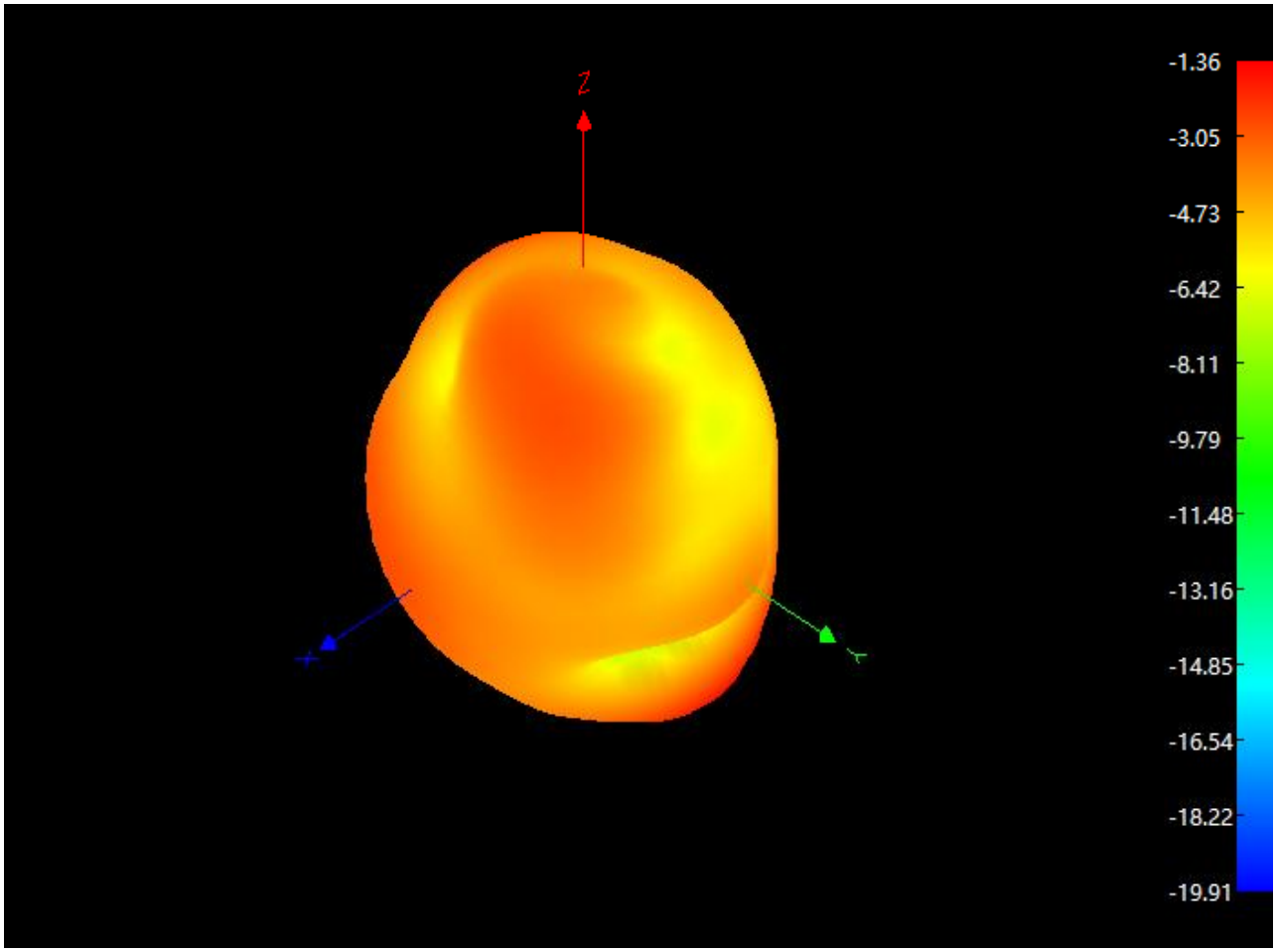
## Radiation Pattern For LTE Main Antenna（820MHz）



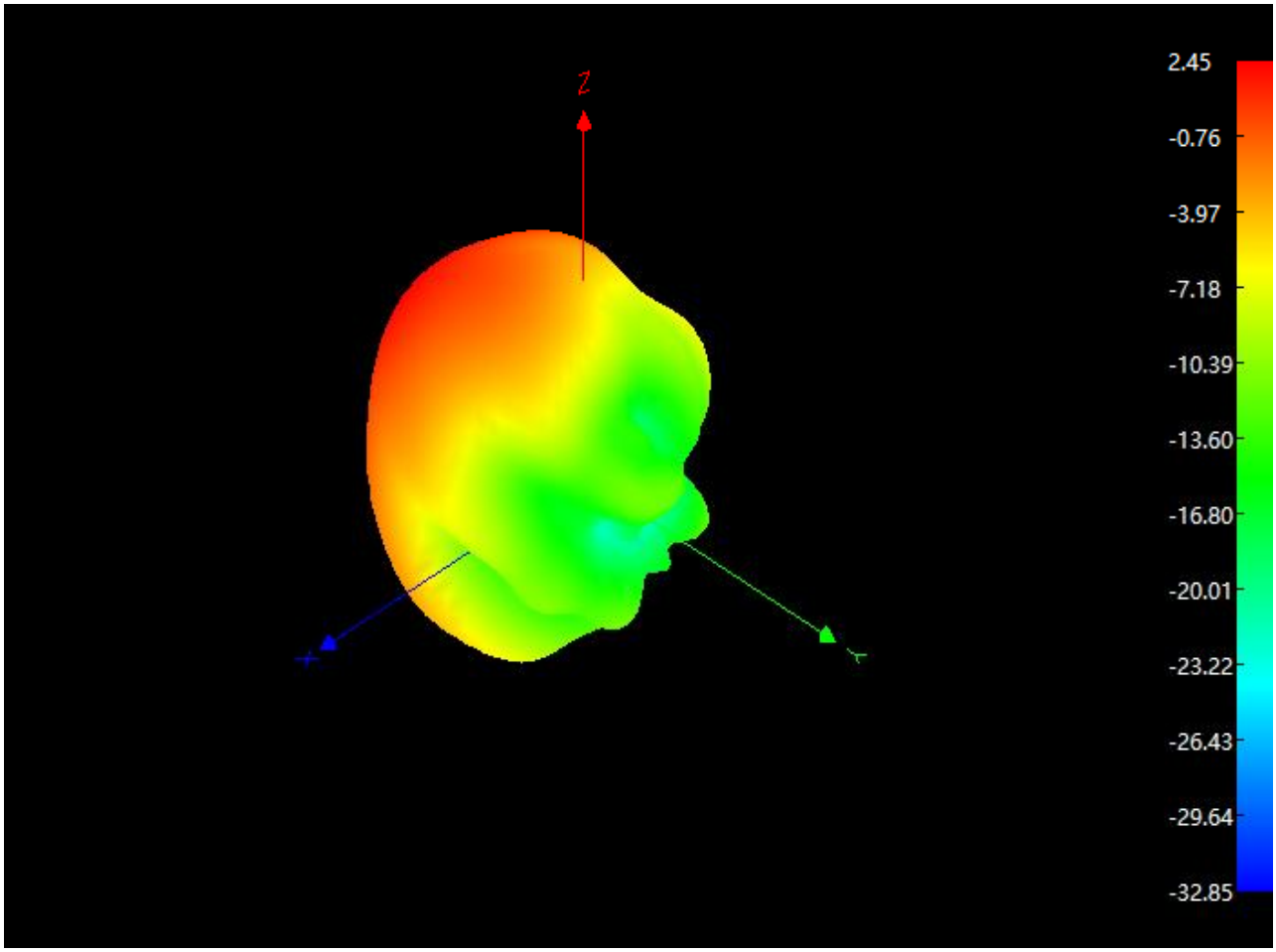
# DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

## Radiation Pattern For LTE Main Antenna（960MHz）



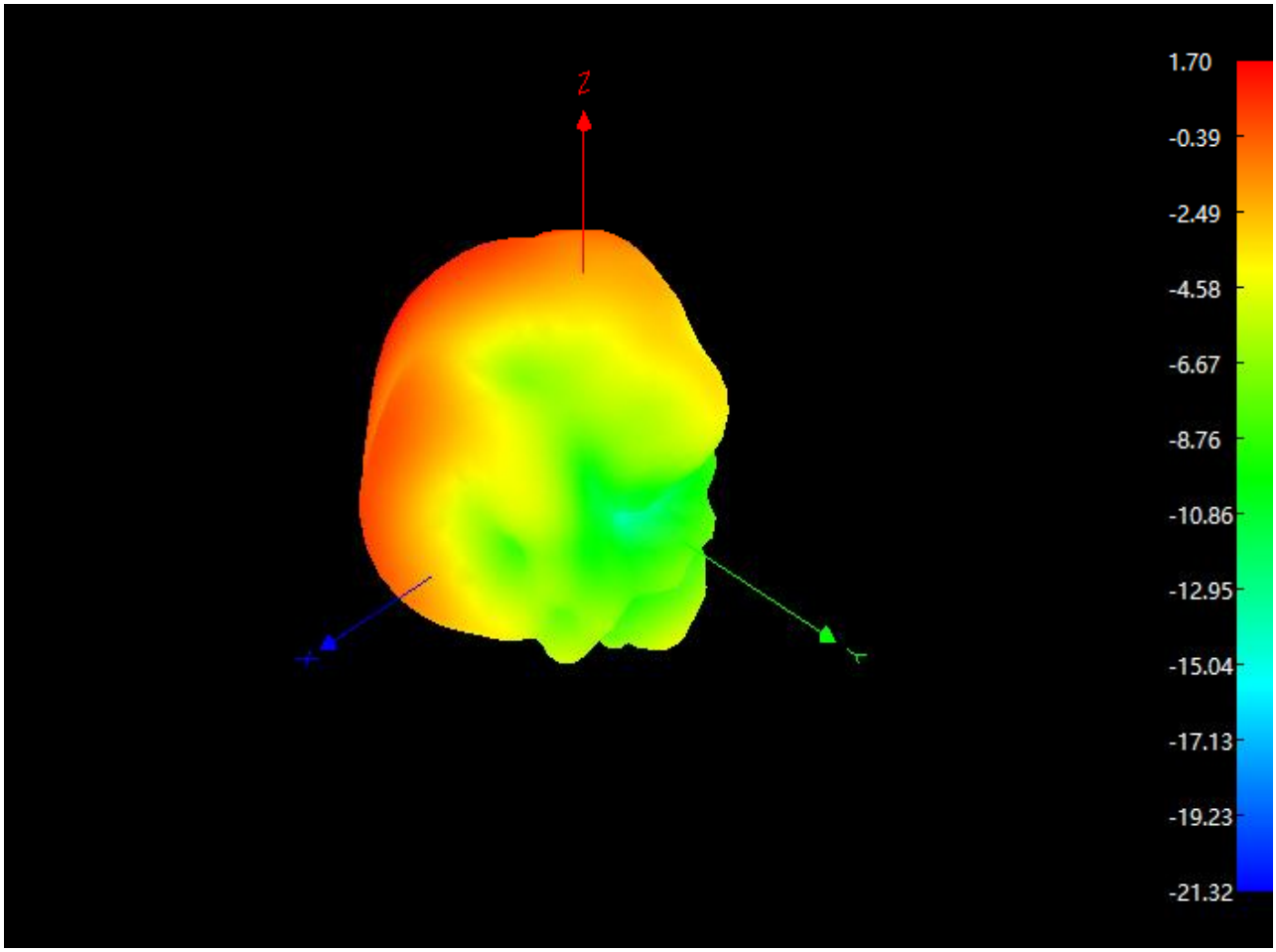
# DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

## Radiation Pattern For LTE Main Antenna（1700MHz）



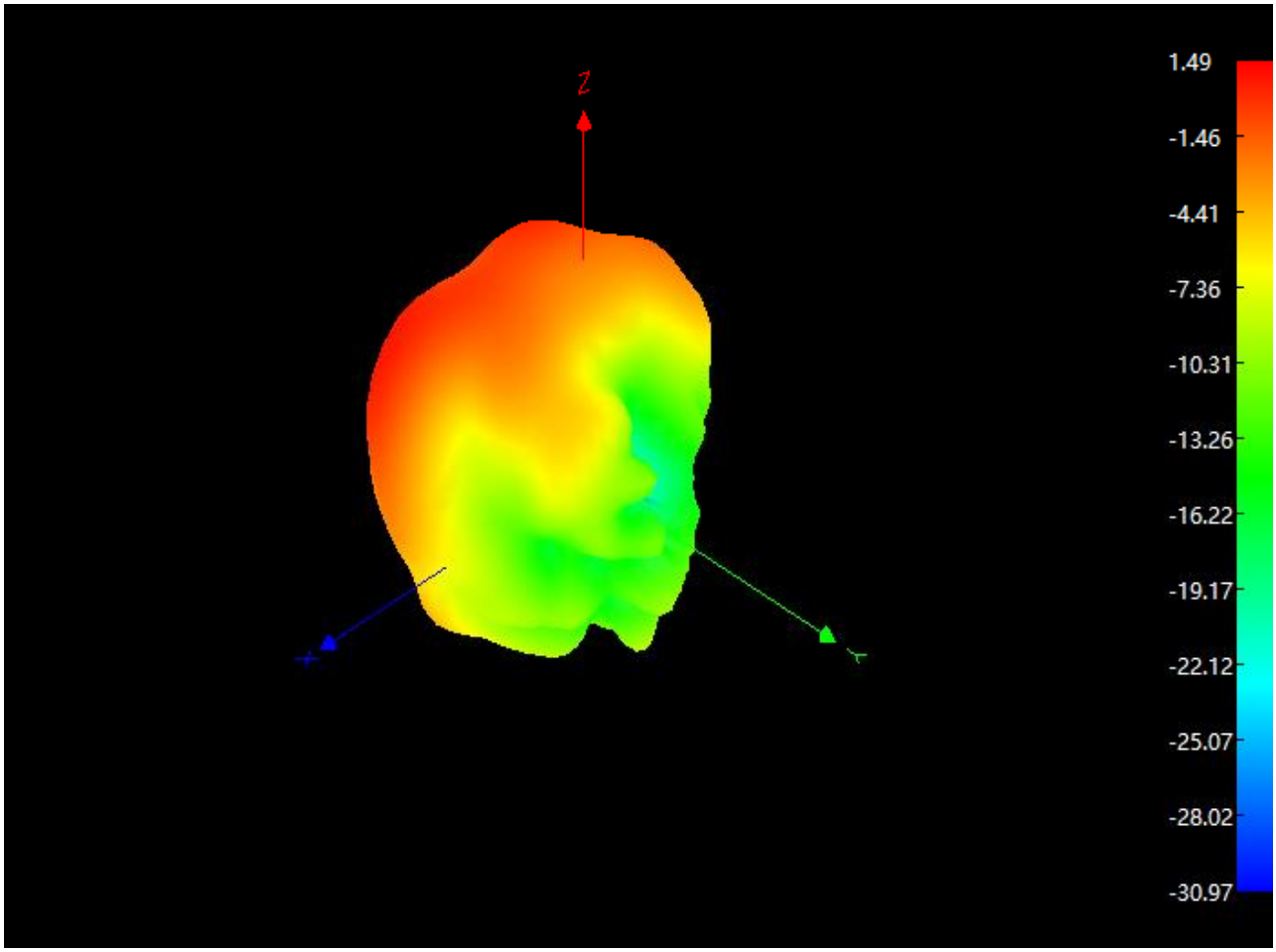
# DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

## Radiation Pattern For LTE Main Antenna（2300MHz）



# DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

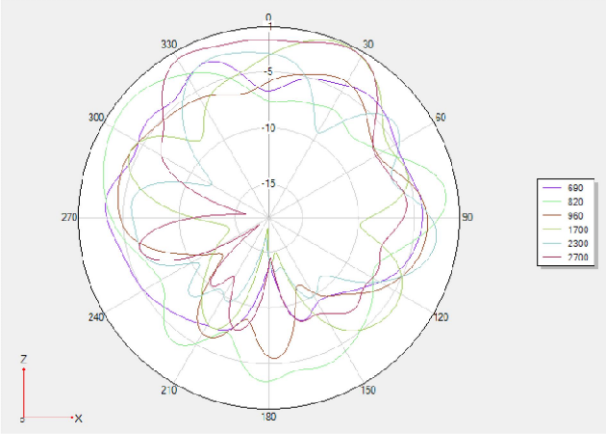
## Radiation Pattern For LTE Main Antenna（2700MHz）



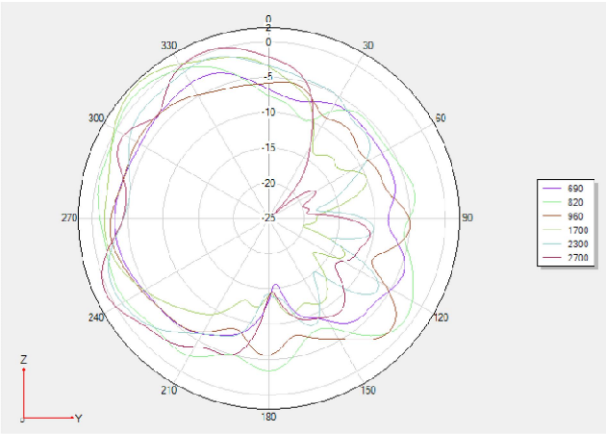
# DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

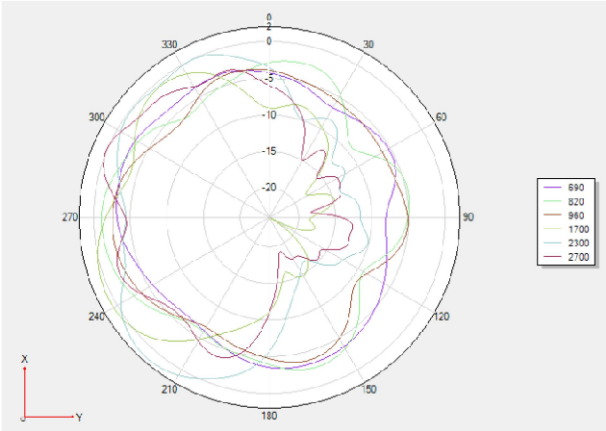
## Radiation Pattern For LTE Main Antenna

**Phi 0°**




**Phi 90°**




**Theta 90°**