

# 900Mhz & 2.4G Dual Band Antenna

MODEL: TH-9024D-TNC(M)



## 1. GENERAL DESCRIPTION

| Model No | P/N            |
|----------|----------------|
| TH-9024D | TH9024D-TNC(M) |

Below is a table summarizing the antenna design specification.

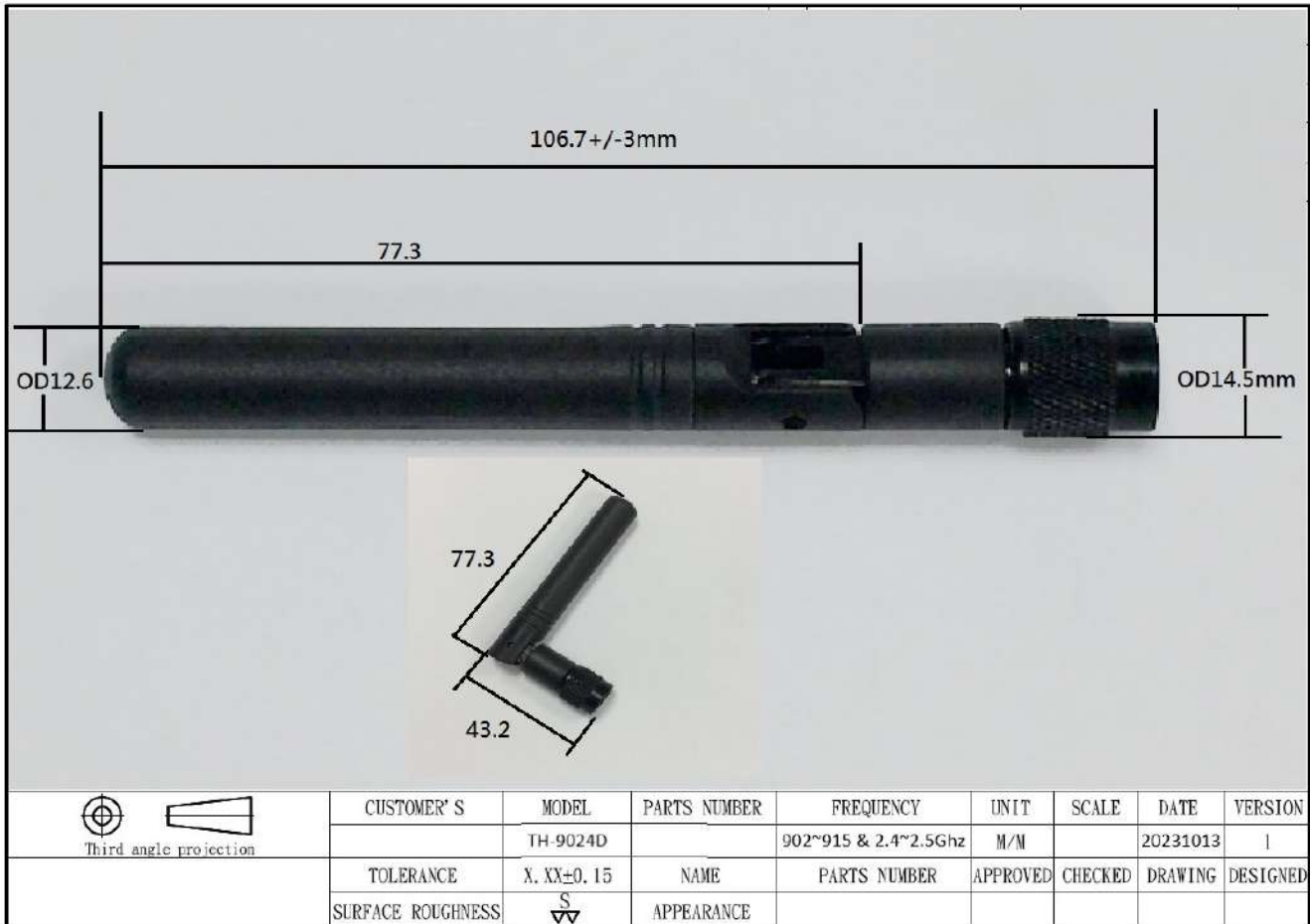
### 1.1 Electrical Properties

| Parameter         | Description                     |
|-------------------|---------------------------------|
| Frequency Band    | 902~928 MHz & 2.4~2.5Ghz ON GND |
| Nominal Impedance | 50 ohm                          |
| Polarization      | Vertical                        |
| Electrical Wave   | Dipole                          |
| Return Loss       | Please See Data-1               |
| V.S.W.R           | 2.0 : 1                         |
| Gain              | 1.5 / 2.5db                     |

### 1.2 Mechanical Properties

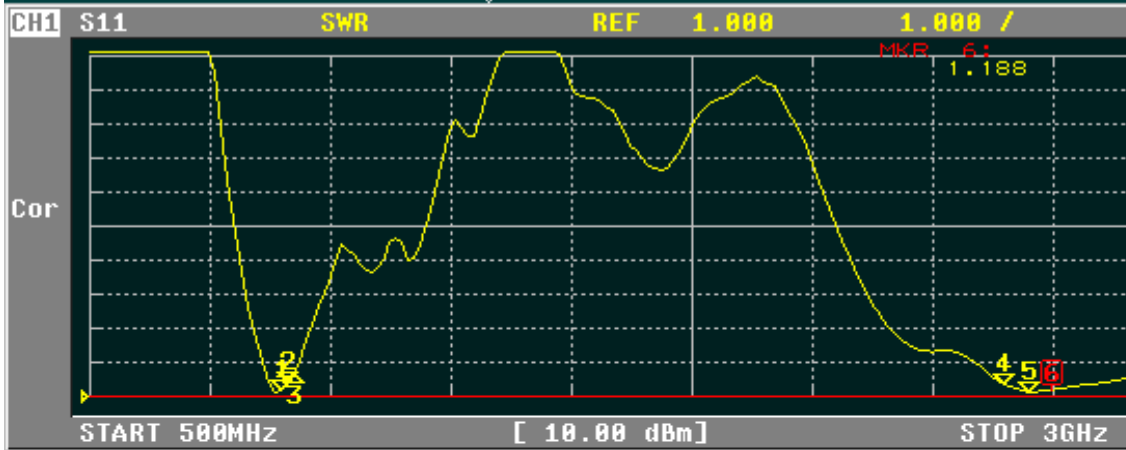
| Parameter                   | Description      |
|-----------------------------|------------------|
| Antenna Type                | External Antenna |
| Touch Type                  | Screw Type       |
| Connector Type              | TNC(Male)        |
| Antenna Dimensions          | 106.7mm $\pm$ 3  |
| Antenna Color               | Black            |
| Operating Temperature Range | -40°C~+85°C      |
| Storage Temperature Range   | -40°C~+85°C      |

## 2. Appearance



## 3. Frequency





CH1 MARKER LIST

|     |              |       |
|-----|--------------|-------|
| 1:  | 902.000MHz   | 1.188 |
| 2:  | 915.000MHz   | 1.448 |
| 3:  | 928.000MHz   | 1.754 |
| 4:  | 2.400 000GHz | 1.369 |
| 5:  | 2.450 000GHz | 1.125 |
| 6:  | 2.500 000GHz | 1.188 |
| 7:  |              |       |
| 8:  |              |       |
| 9:  |              |       |
| 10: |              |       |

FORMAT

LOG MAG 1

PHASE 2

DELAY 3

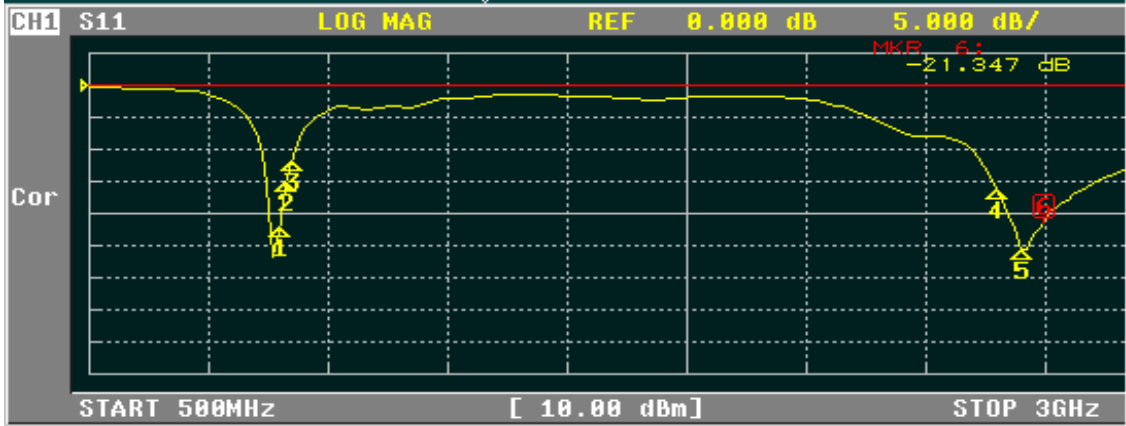
SMITH (R+jX) 4

SMITH (G+jB) 5

POLAR 6

LIN MAG 7

More 1/2 8



CH1 MARKER LIST

|     |              |            |
|-----|--------------|------------|
| 1:  | 902.000MHz   | -21.930 dB |
| 2:  | 915.000MHz   | -14.844 dB |
| 3:  | 928.000MHz   | -11.400 dB |
| 4:  | 2.400 000GHz | -16.079 dB |
| 5:  | 2.450 000GHz | -25.552 dB |
| 6:  | 2.500 000GHz | -21.347 dB |
| 7:  |              |            |
| 8:  |              |            |
| 9:  |              |            |
| 10: |              |            |

FORMAT

LOG MAG 1

PHASE 2

DELAY 3

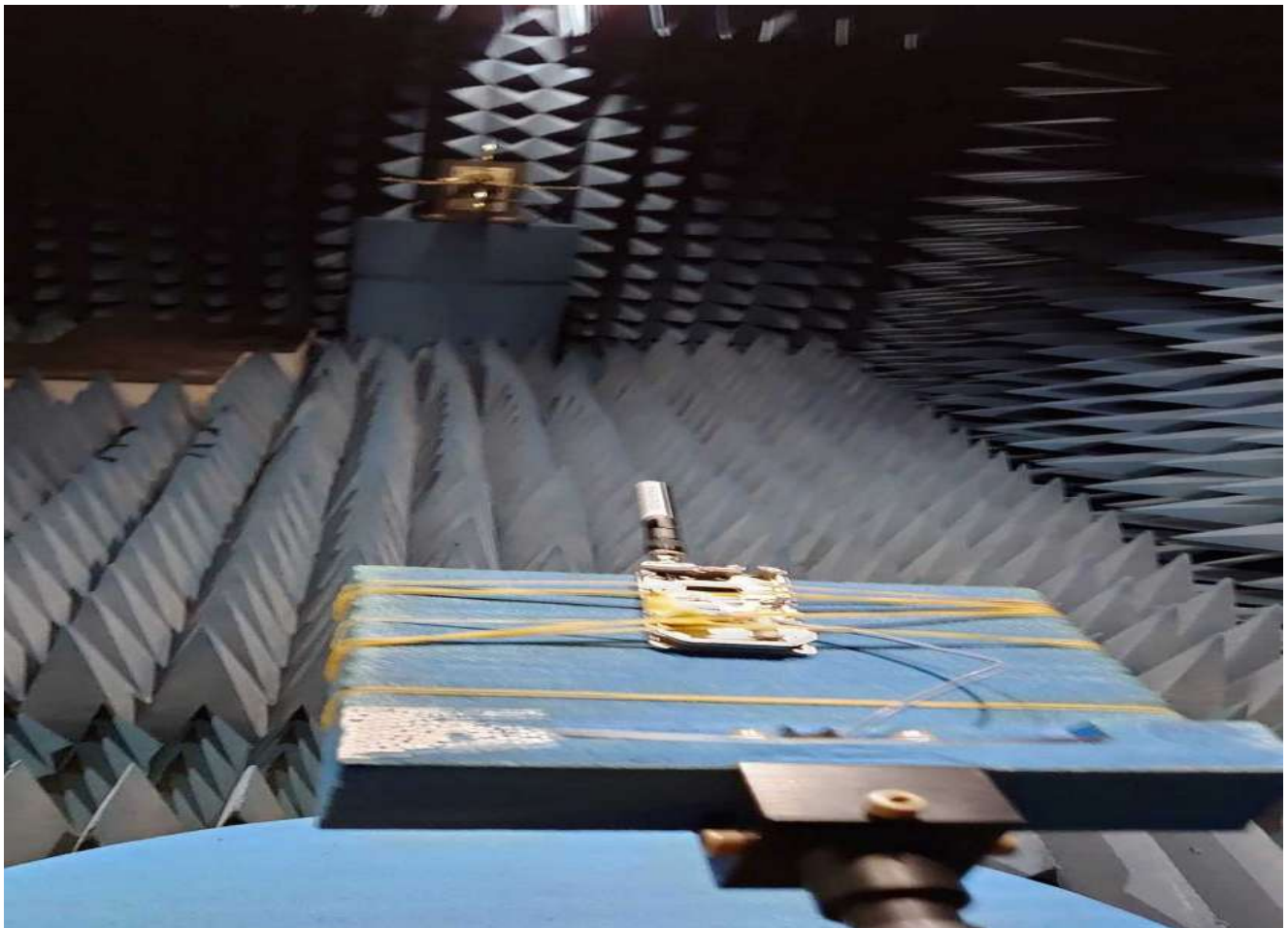
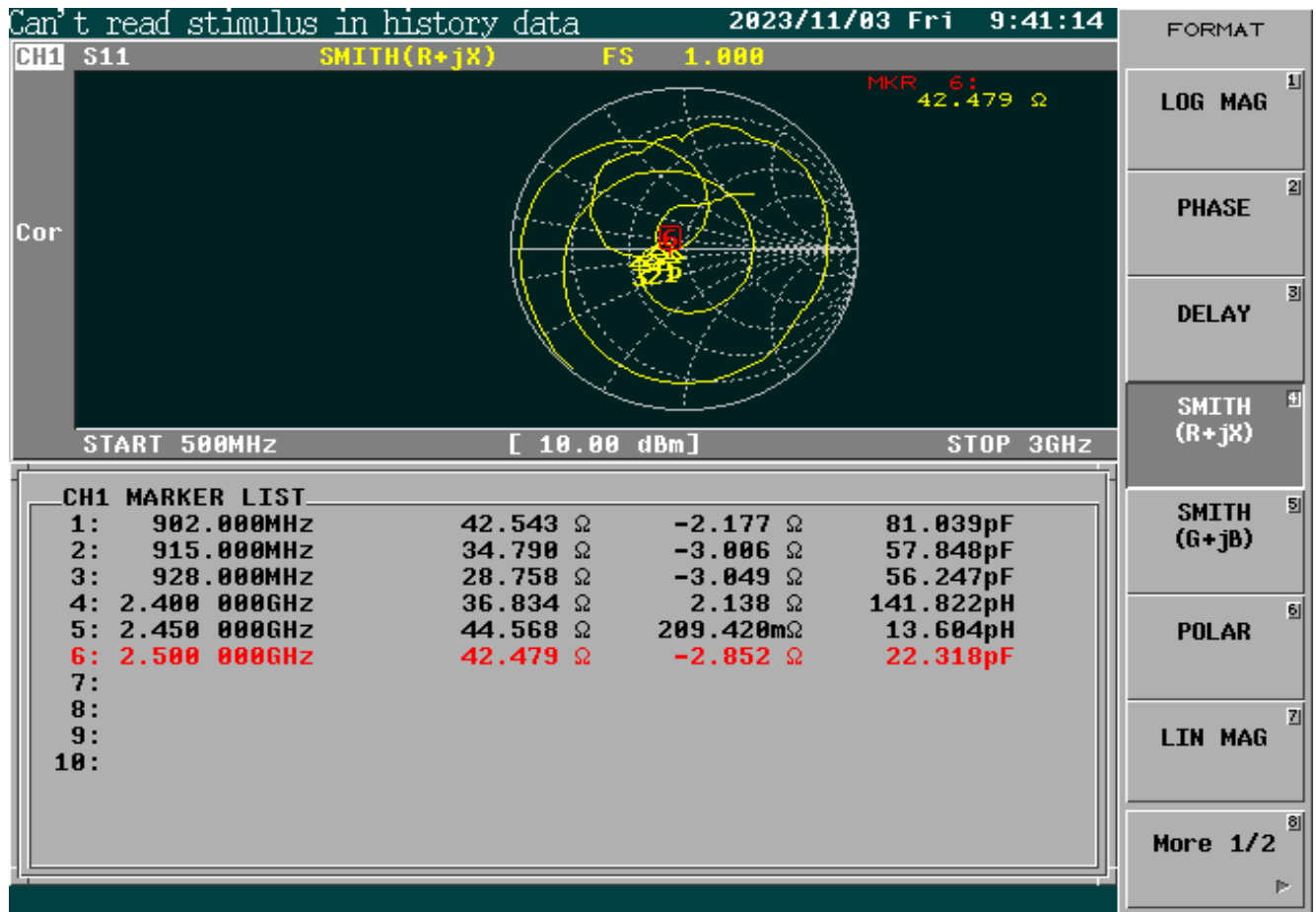
SMITH (R+jX) 4

SMITH (G+jB) 5

POLAR 6

LIN MAG 7

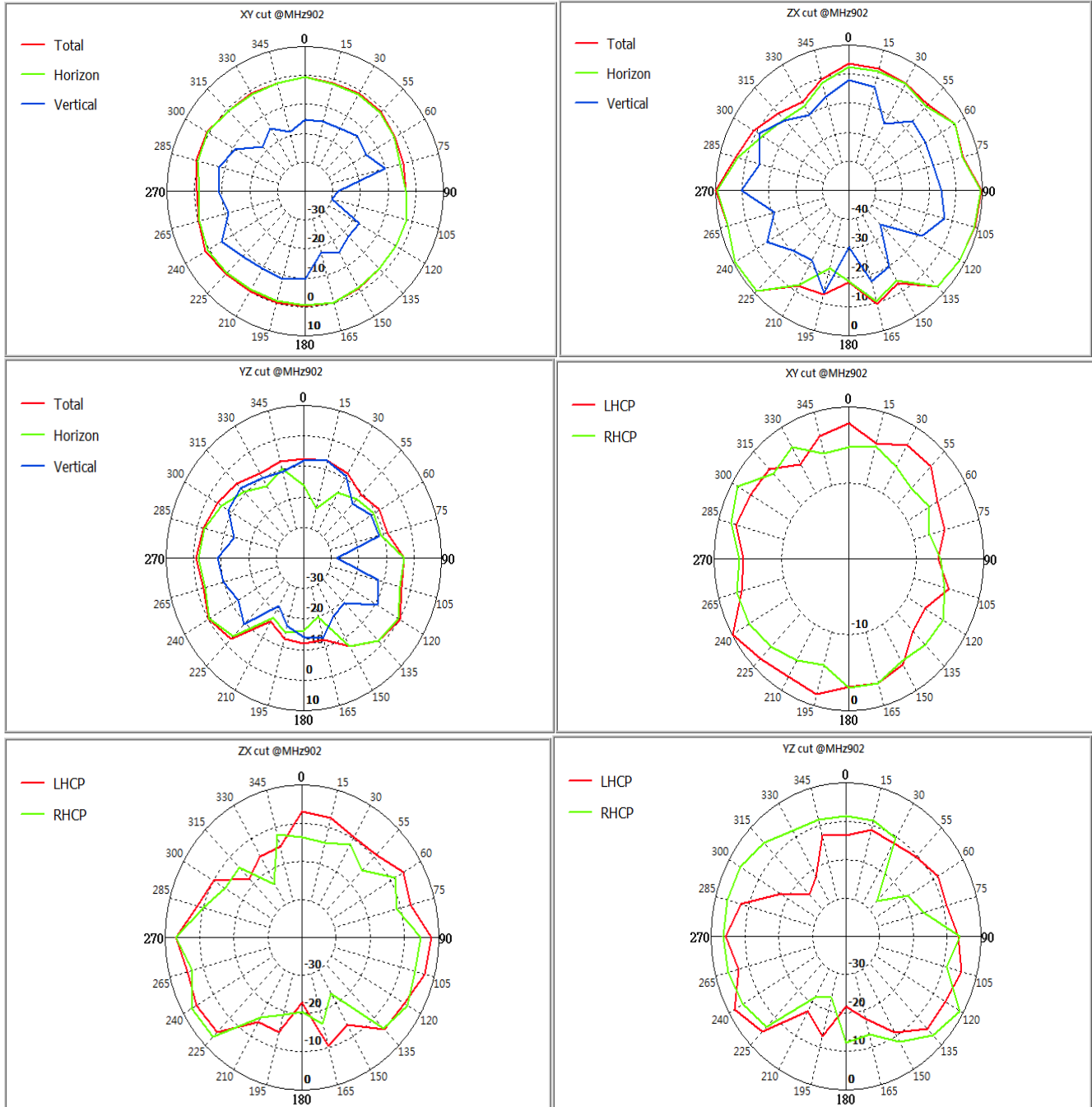
More 1/2 8



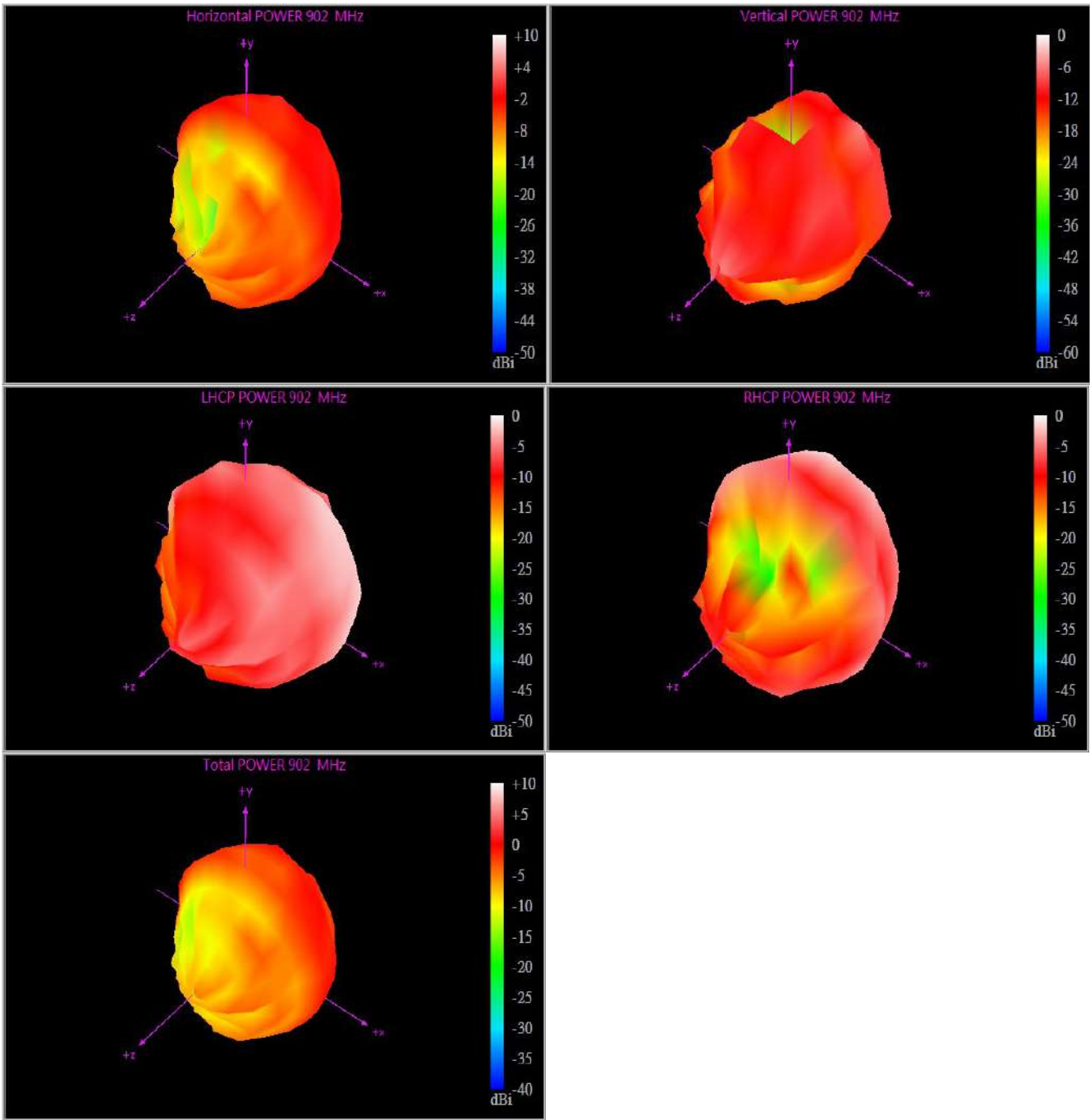
### 3D Total

| Frequency (MHz) | Upper Hem. PRP (dBm) | Lower HEM. PRP (dBm) | Efficiency (dB) | Efficiency (%) | Gain (dBi) | Tot. Rad.Pwr. (dBm) |
|-----------------|----------------------|----------------------|-----------------|----------------|------------|---------------------|
| 902 MHz         | -8.58                | -5.82                | -3.97           | 40.06          | 1.76       | -3.97               |
| 915 MHz         | -8.65                | -5.39                | -3.71           | 42.51          | 1.44       | -3.71               |
| 928 MHz         | -8.39                | -4.94                | -3.32           | 46.55          | 1.46       | -3.32               |
| 2400 MHz        | -6.26                | -6.48                | -3.36           | 46.17          | 1.84       | -3.36               |
| 2450 MHz        | -5.80                | -6.41                | -3.08           | 49.16          | 2.68       | -3.08               |
| 2500 MHz        | -5.20                | -6.10                | -2.62           | 54.76          | 2.96       | -2.62               |

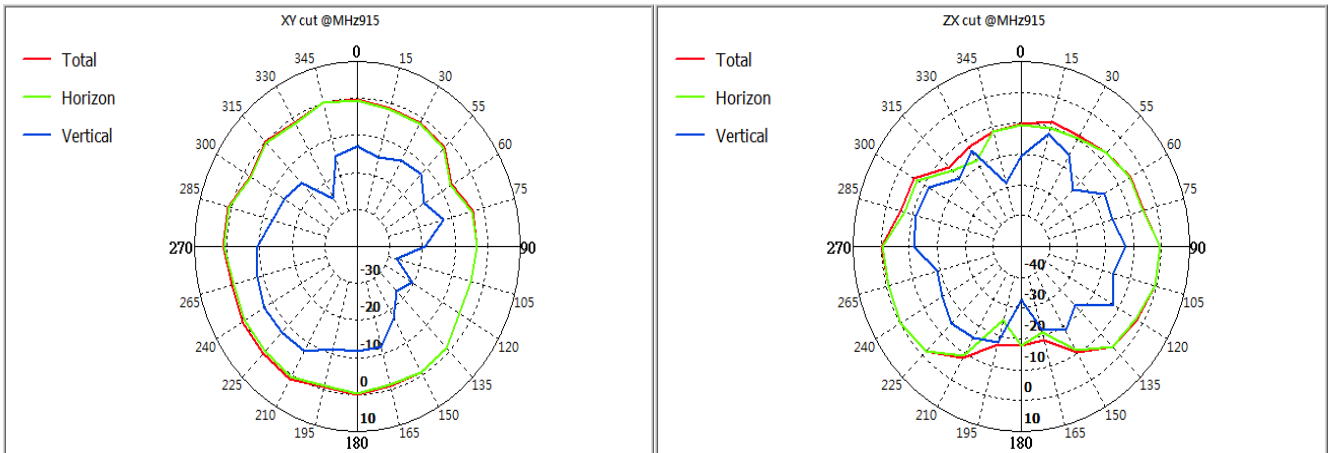
### 902MHz:

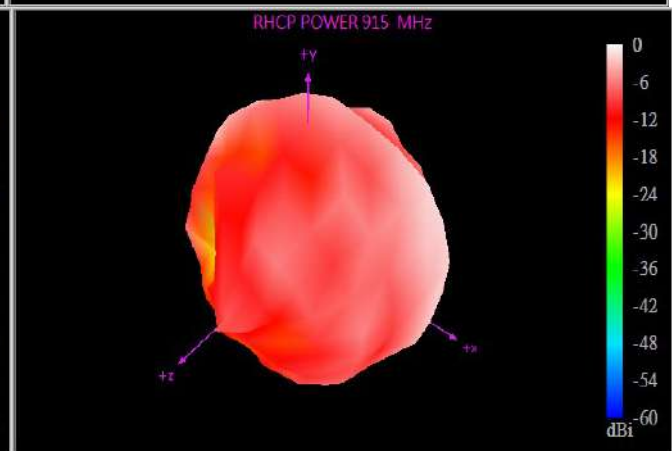
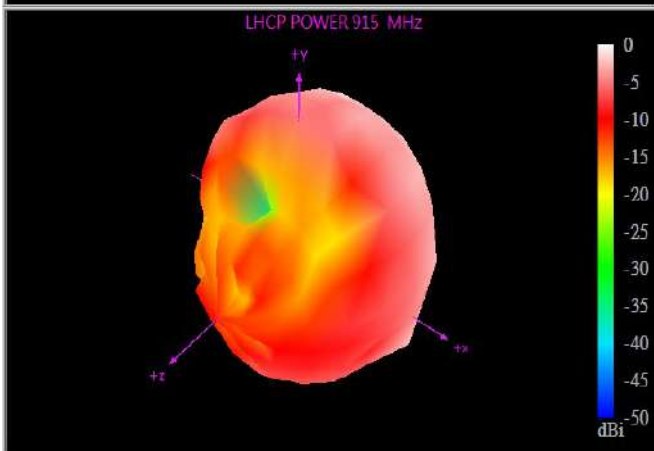
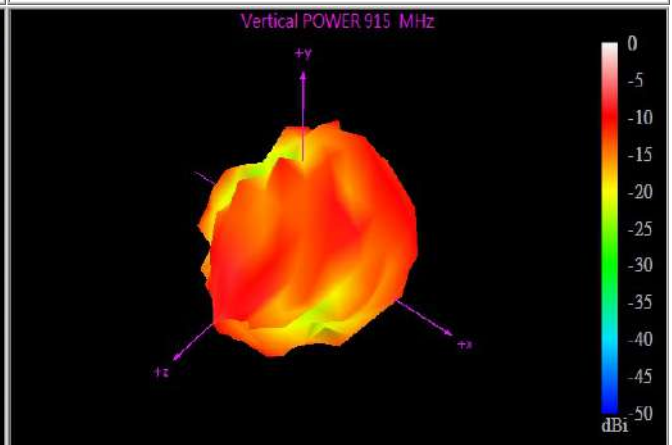
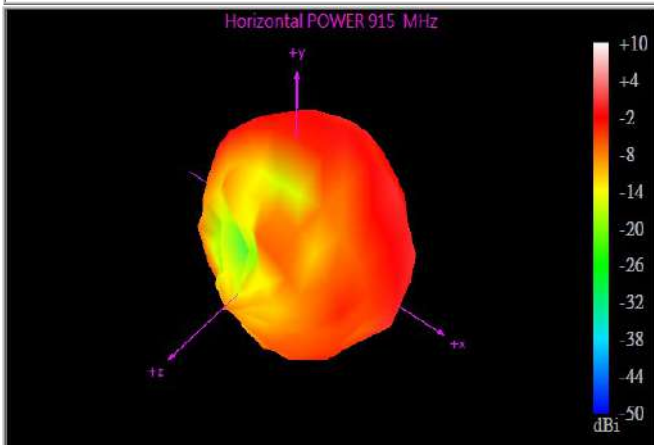
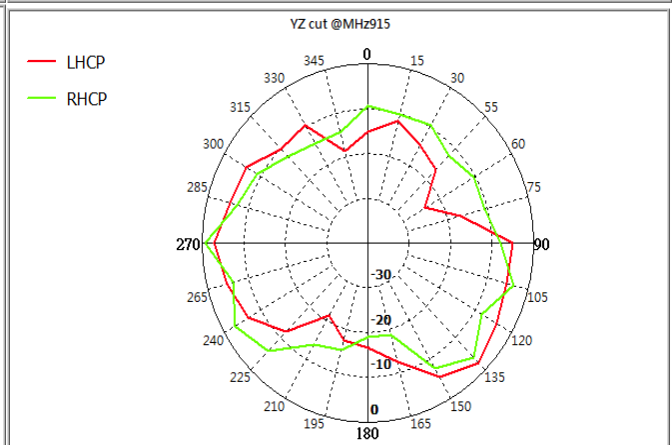
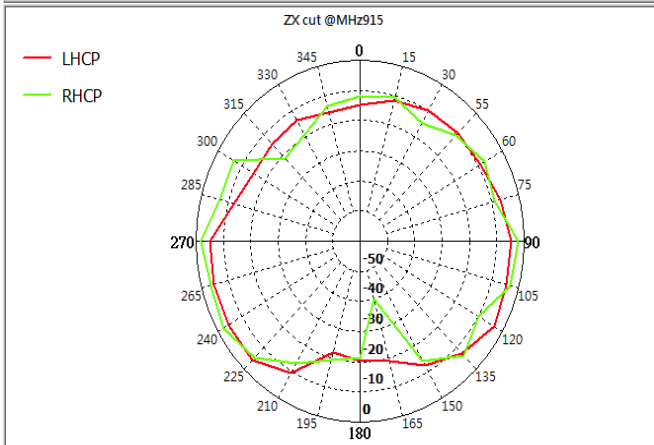
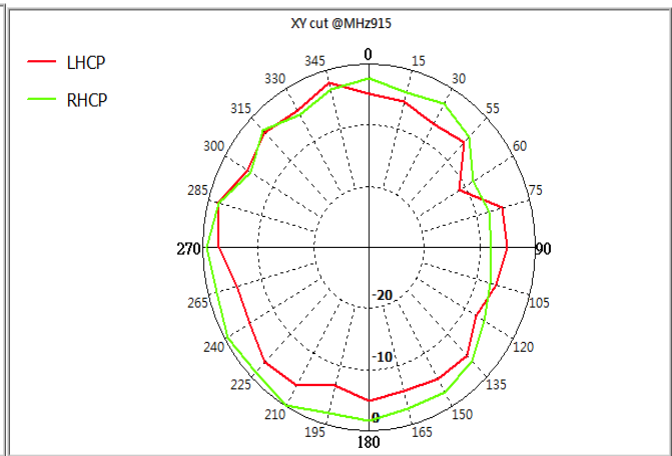
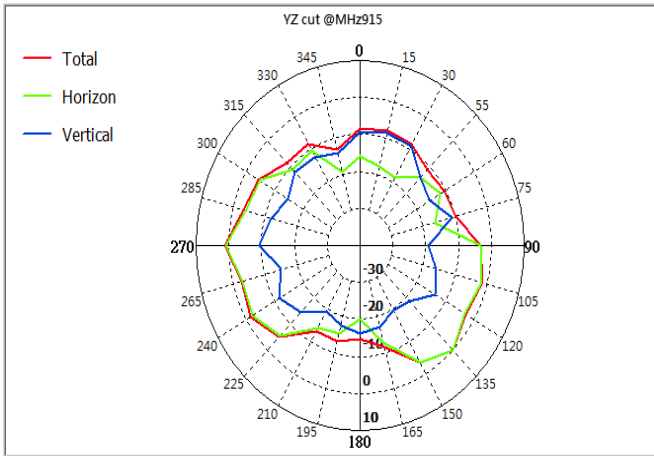


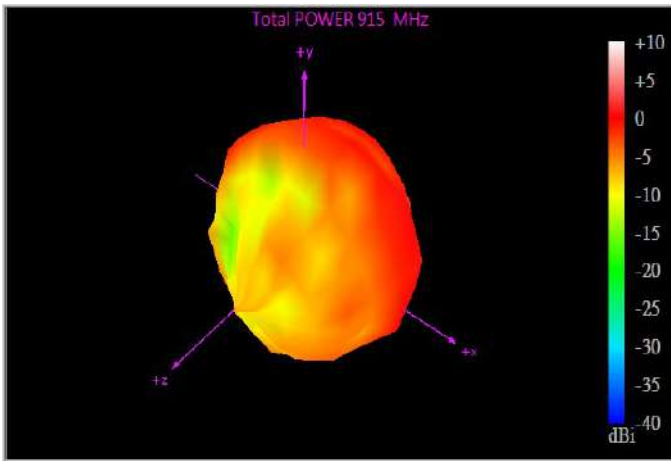




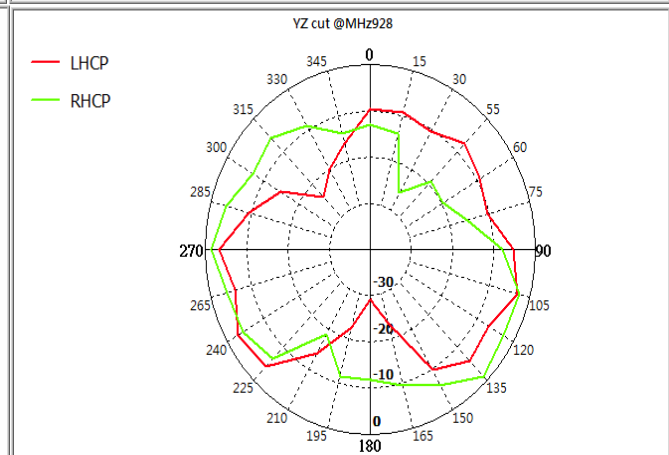
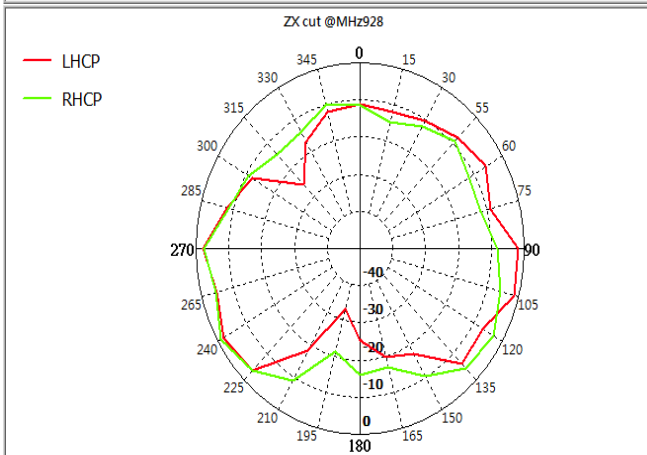
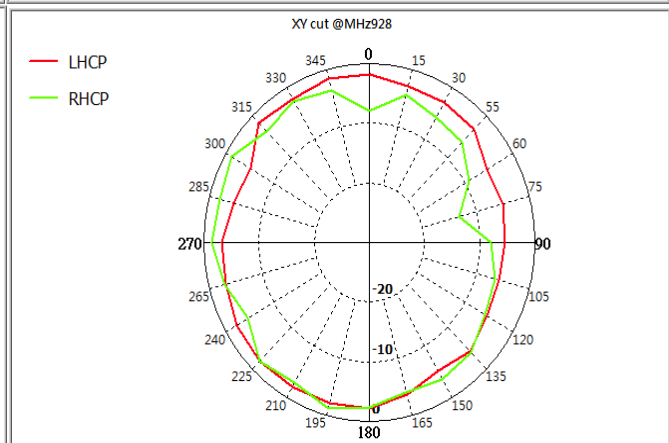
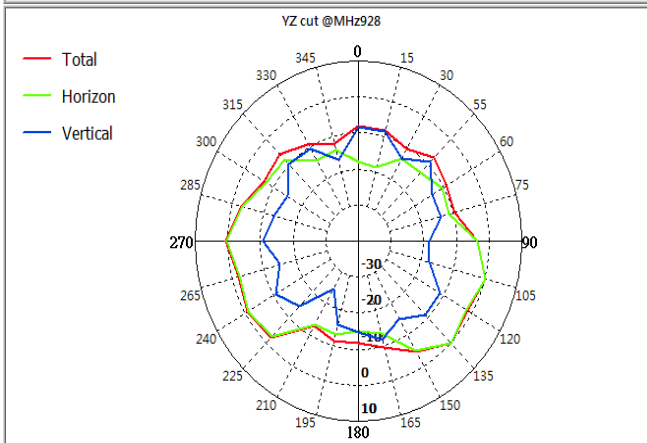
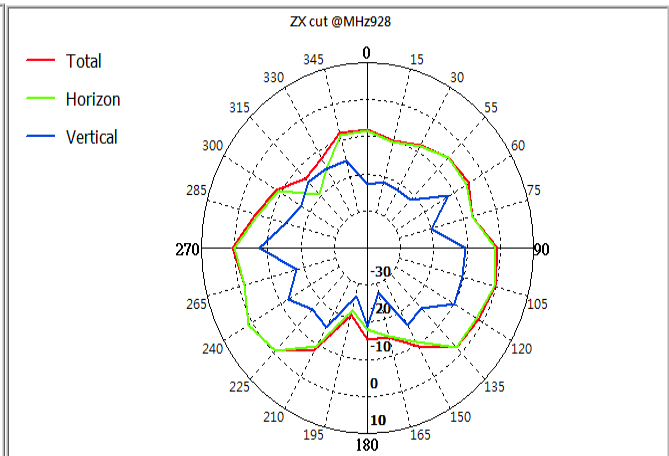
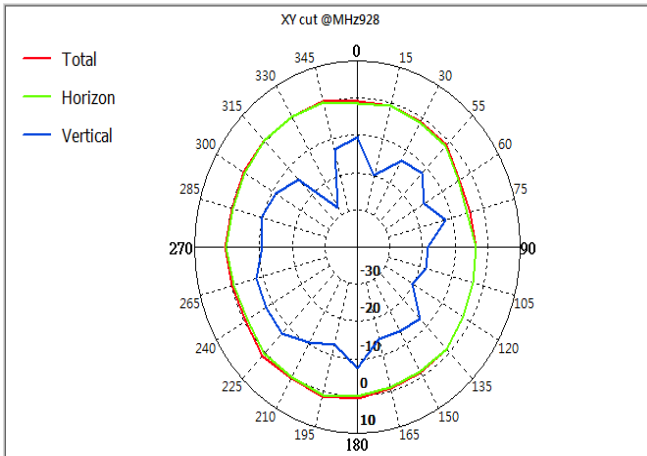
**915Mhz:**



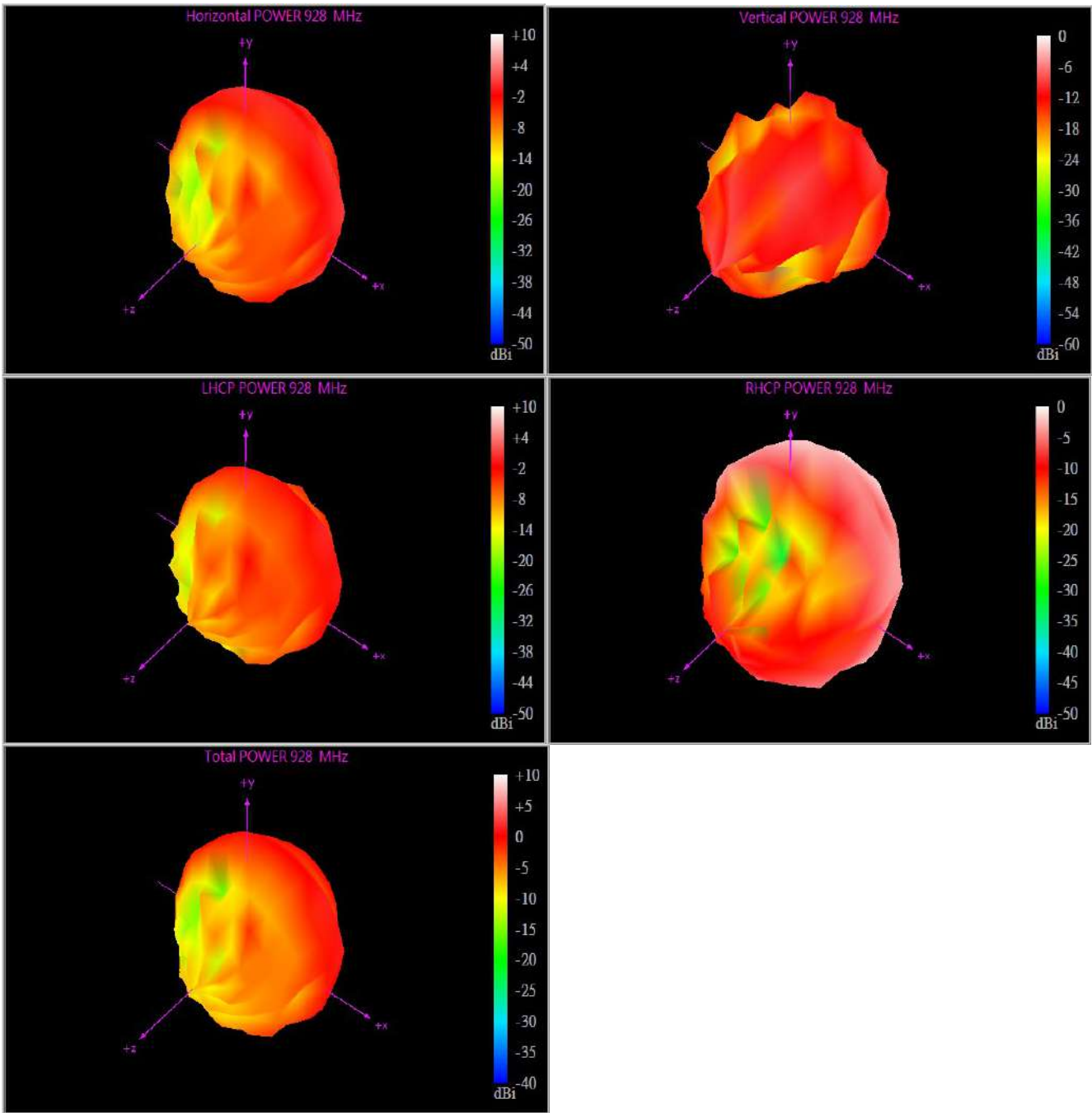




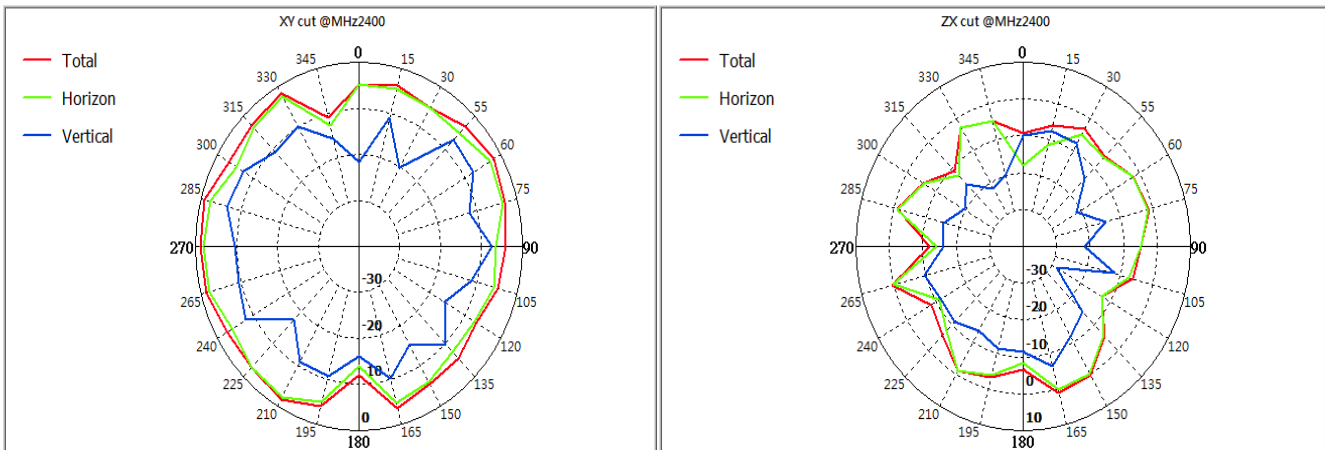
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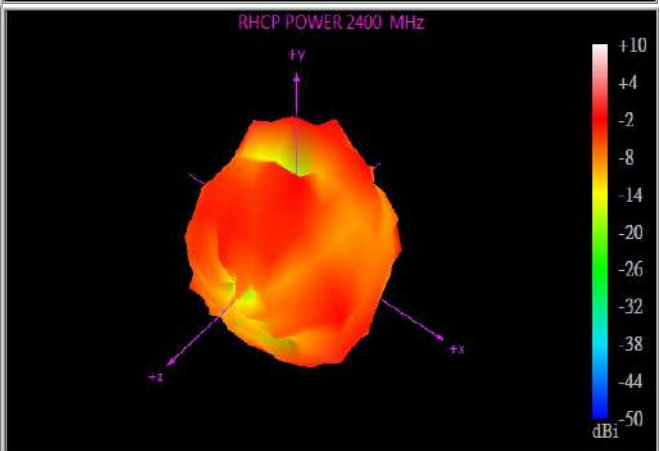
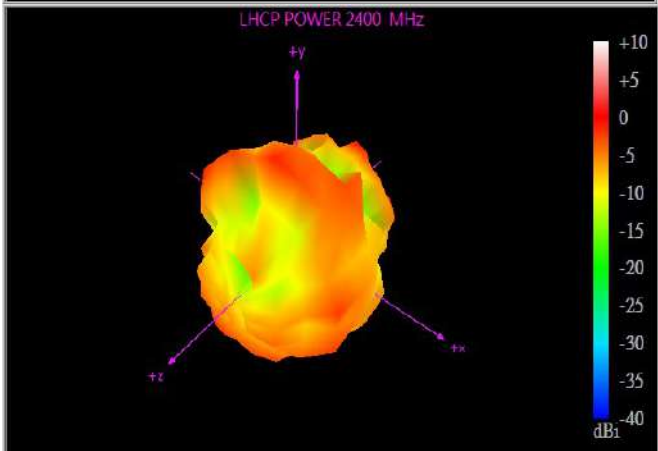
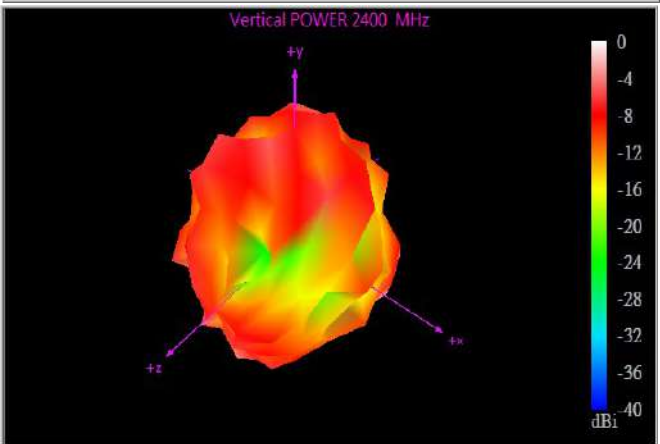
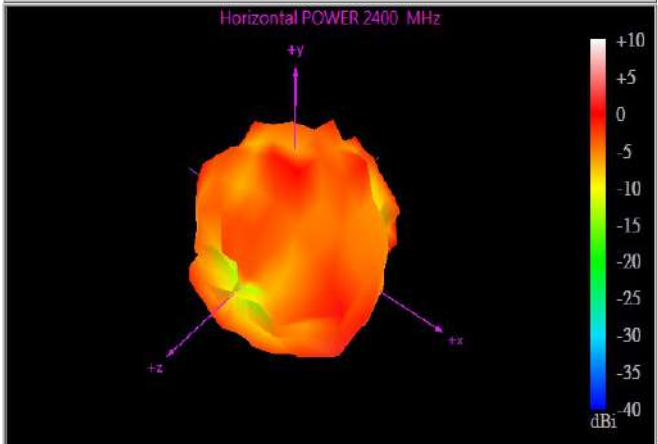
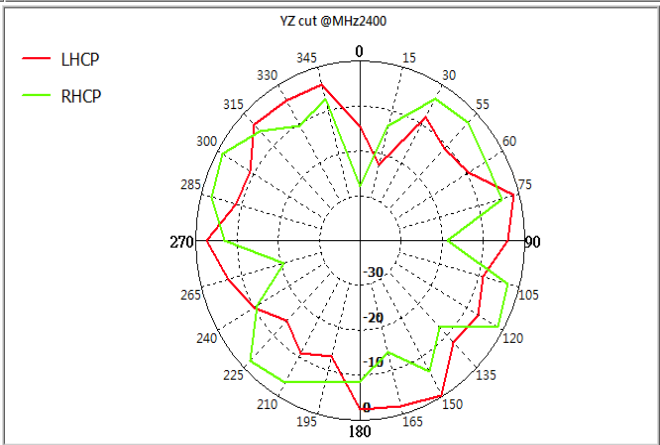
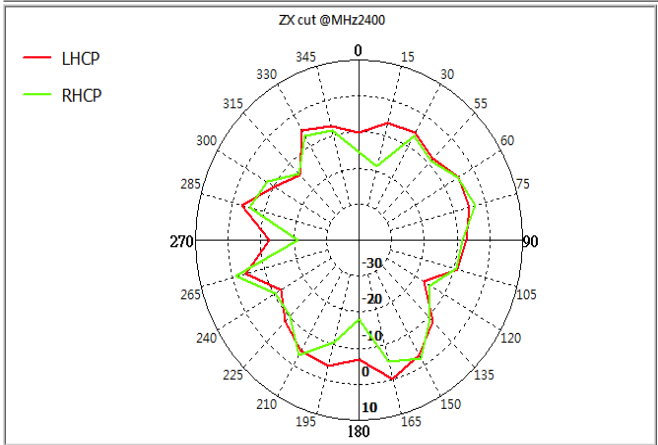
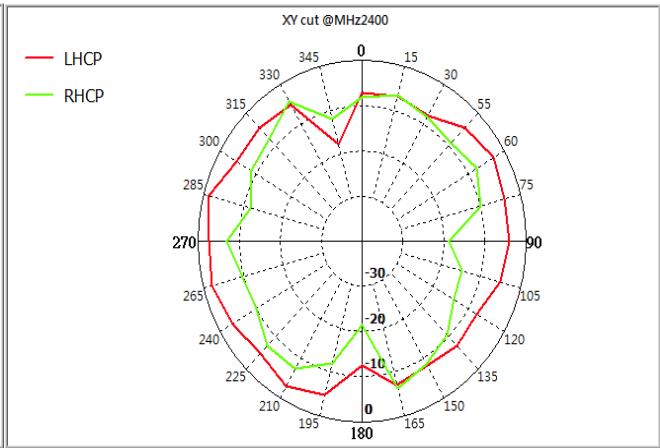
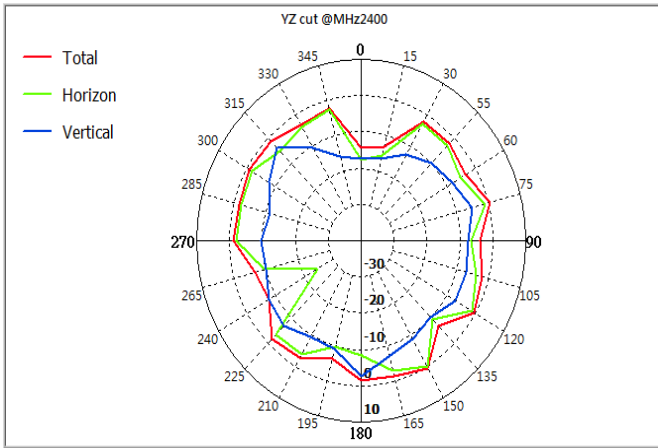


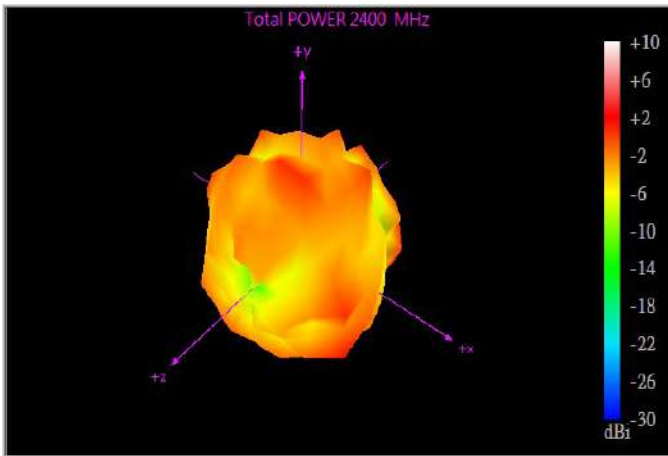




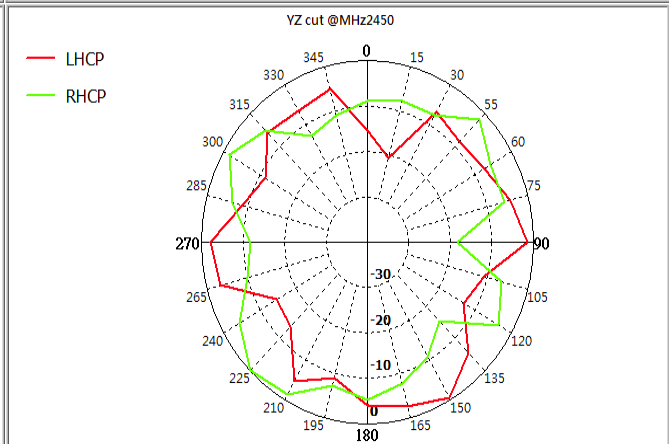
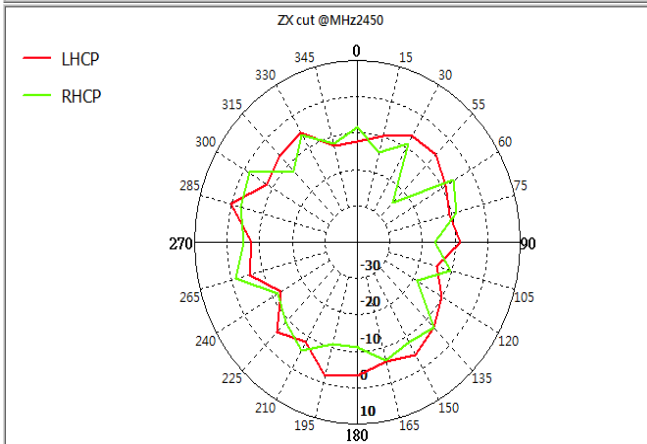
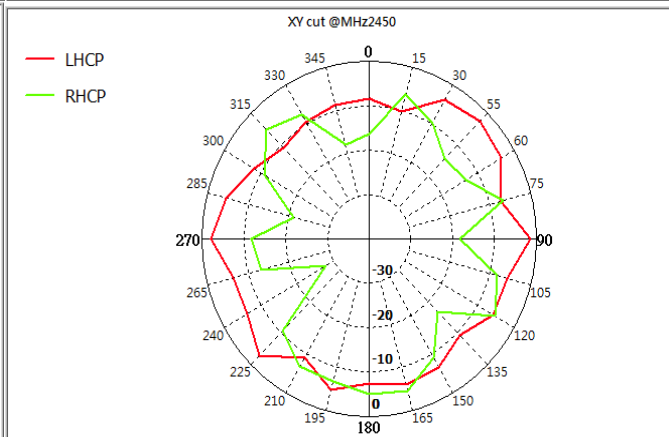
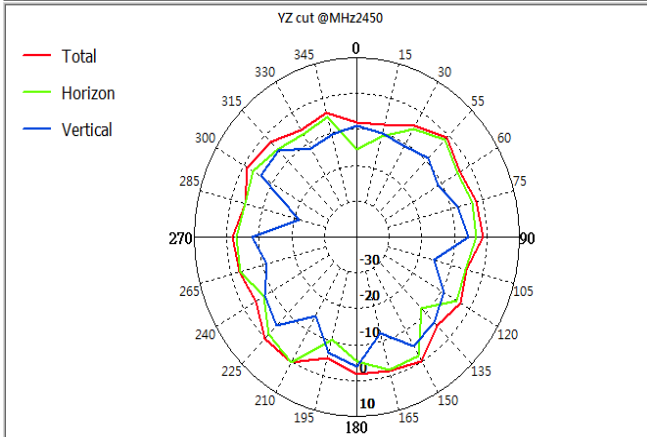
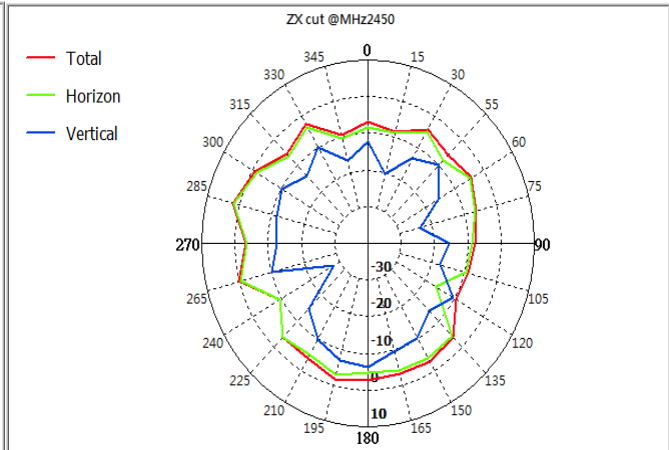
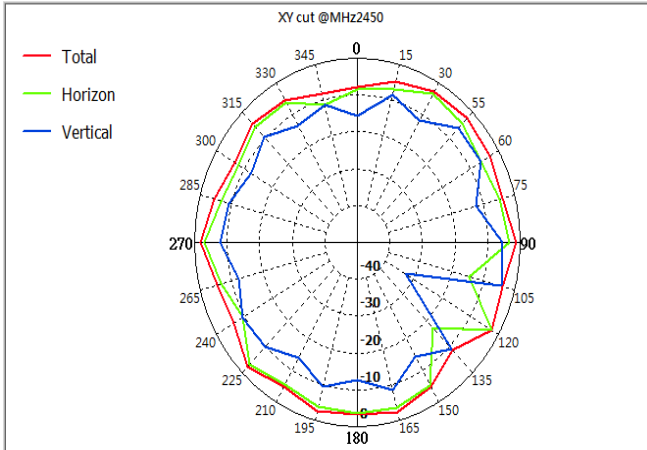
**2.4Ghz:**

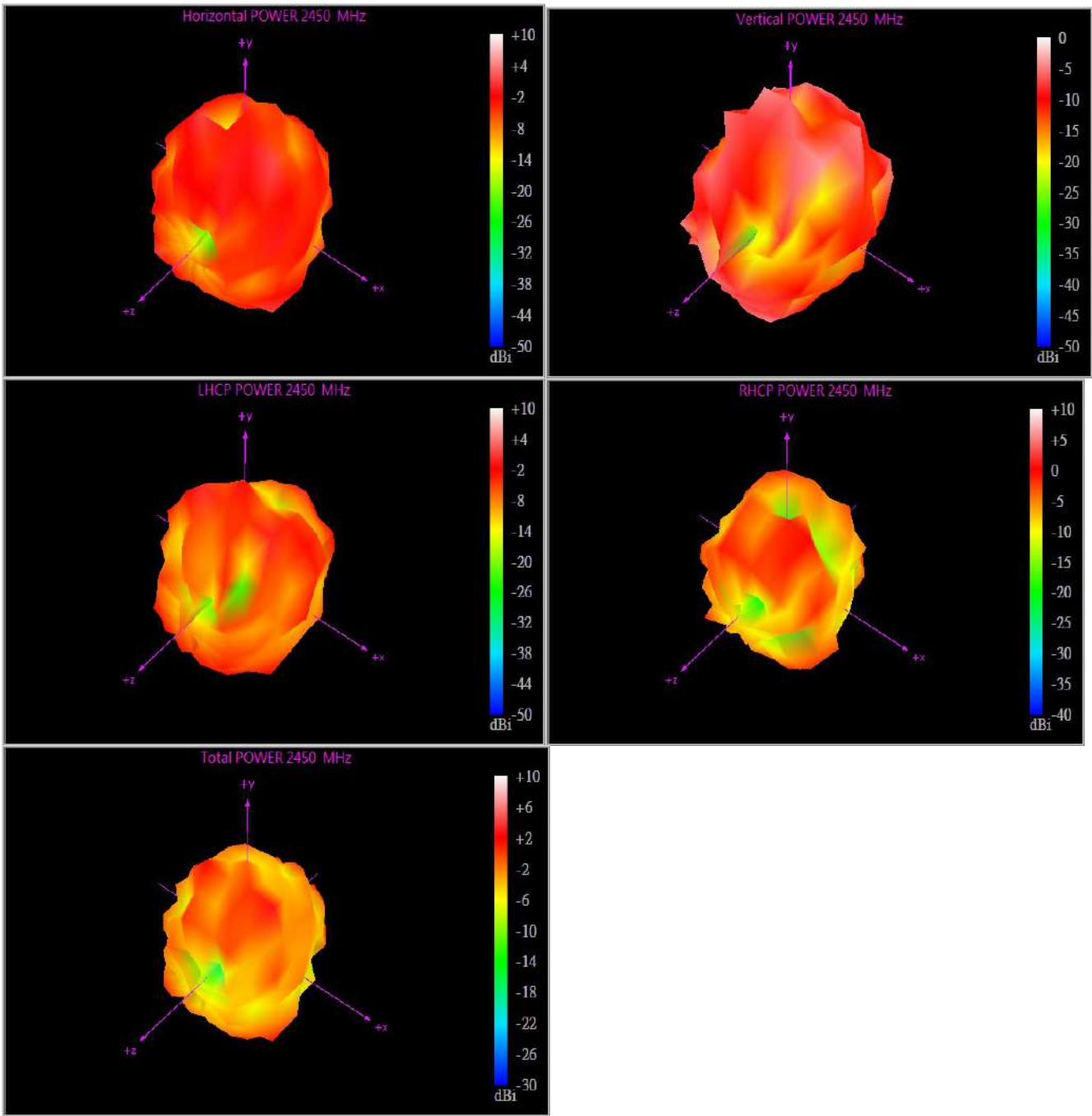






## 2.45Ghz:





**2.5Ghz:**

