



# G2 BN Antenna Test Report

For Tarana Part Number: 31-0252-301

**Kaishuo  
Wang**

Digitally signed by Kaishuo Wang  
DN: cn=Kaishuo Wang, gn=Kaishuo Wang,  
o=US United States, l=US United States,  
c=US United States, email=kaishuo@taranawireless.com  
Reason: I am the author of this document  
Location:  
Date: 2025-05-01 13:21-07:00

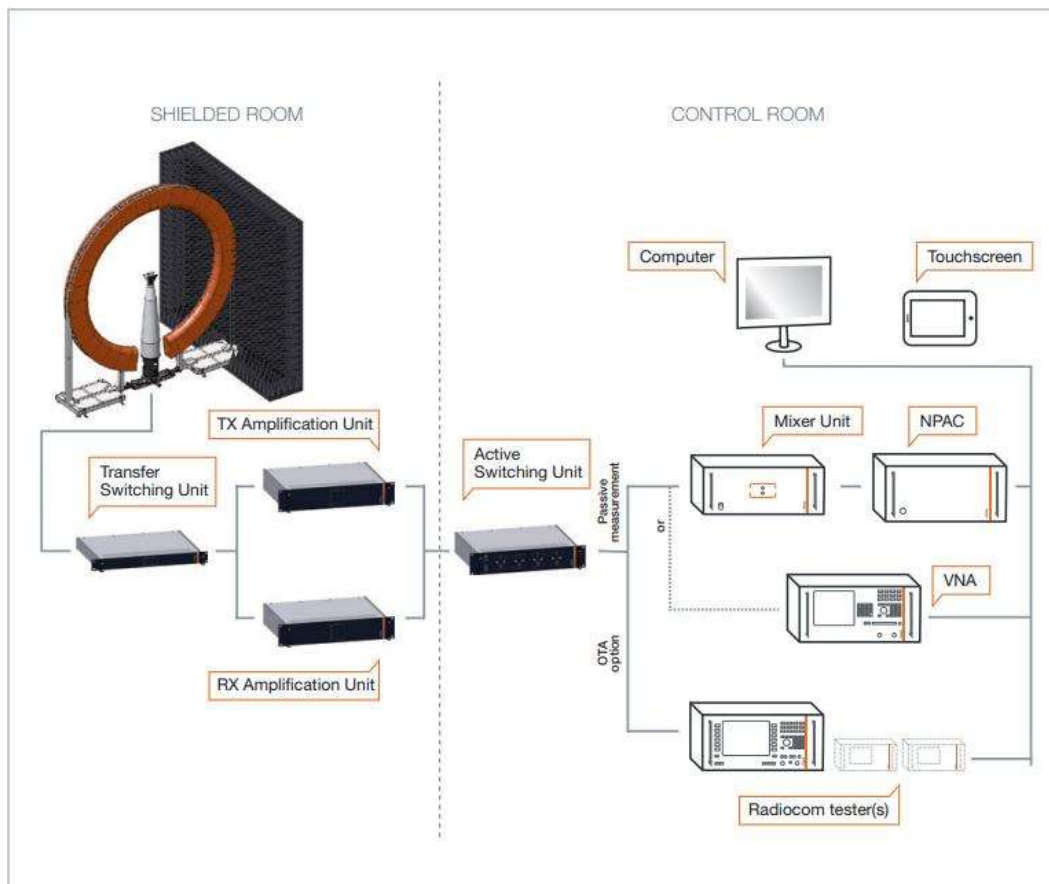
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Prepared by: Kaishuo Wang

Report Date: 2025-05-01

## 1. Antenna Test Lab Information

- Lab Name: MVG, Inc.
- Address: 450 Franklin Gateway, Suite 100, Marietta, GA, 30067.
- [Certification](#): MVG is ISO 9001 and 17025 certified, and A2LA accredited, and offers NIST traceable antenna measurements. MVG is also a CTIA Authorized Test Laboratory (CATL) for Over the Air (OTA) active measurements.
- Test system: SG 64-S spherical near-field measurement system
- Frequency measurement range: SG64 frequency range of operation is from 400MHz to 6.0 GHz. The frequency range from 6.0 to 18.0 GHz is covered via an indoor far-field chamber.
- EUT measurement method: Gain-transfer or Substitution Method.
- For more detailed information about the test system, please refer to this [link](#).
- Equipment List / System Overview:





## 2. Equipment/System Calibration and Test Information

| Equipment Name           | Model                              | Manufacturer | Calibration Date | Calibration Due Date |
|--------------------------|------------------------------------|--------------|------------------|----------------------|
| SG-64 Measurement System | Spherical Near Field Measurement   | MVG, Inc     | February 2025    | February 2026        |
| Vector Network Analyzer  | Keysight P5008A<br>SN: WO-00835984 | Keysight     | 11 July 2024     | 11 July 2026         |

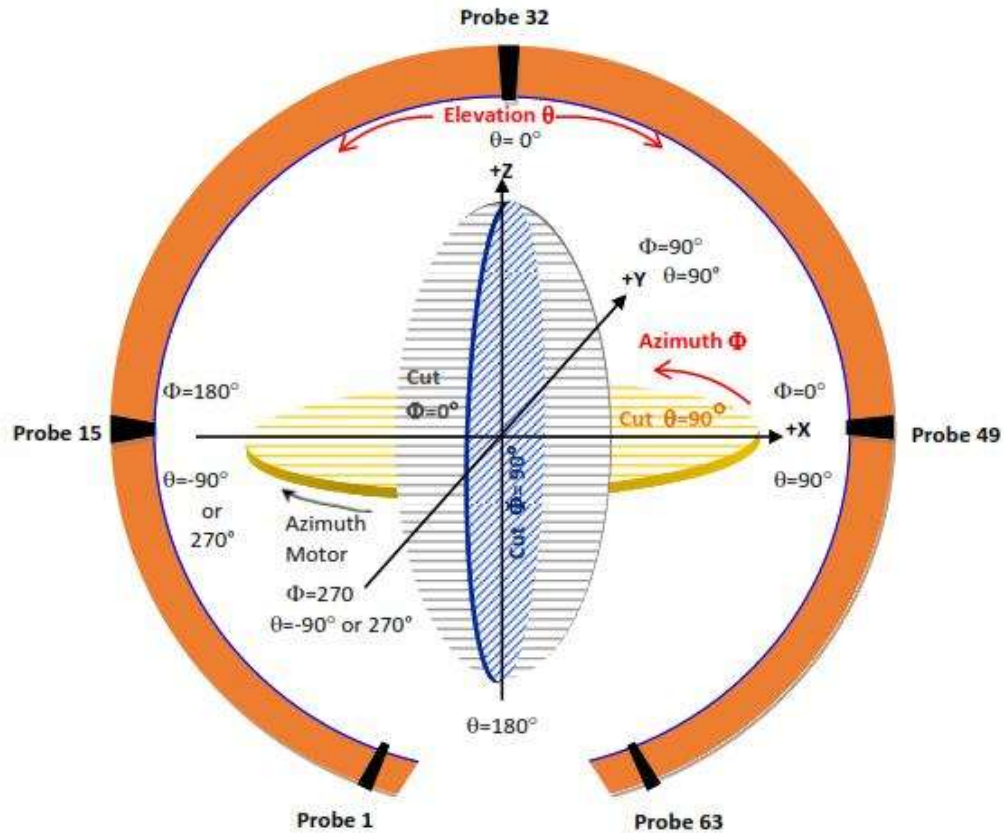
|                |                |
|----------------|----------------|
| Test Personnel | Kyle Davis     |
| Test Date      | March 24, 2025 |

## 3. EUT(Antenna) Information

| Name                         | Model Number | Antenna Type  |
|------------------------------|--------------|---------------|
| G2 BN Antenna, CBRS and 6GHz | 31-0252-301  | Array Antenna |

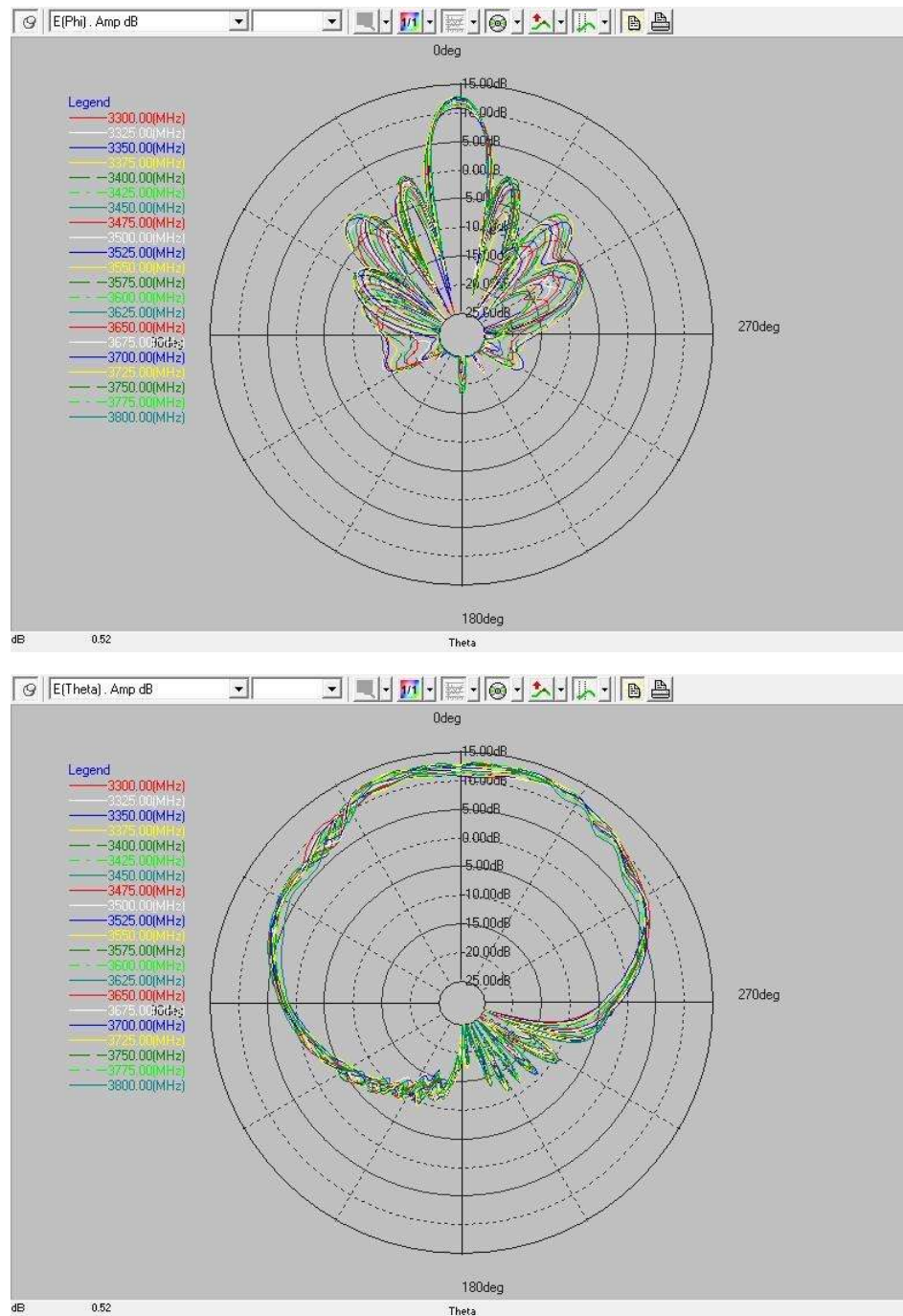
## 5. Measurement setting – MVG SG64 Coordinate System

### MVG SG64 Coordinate System

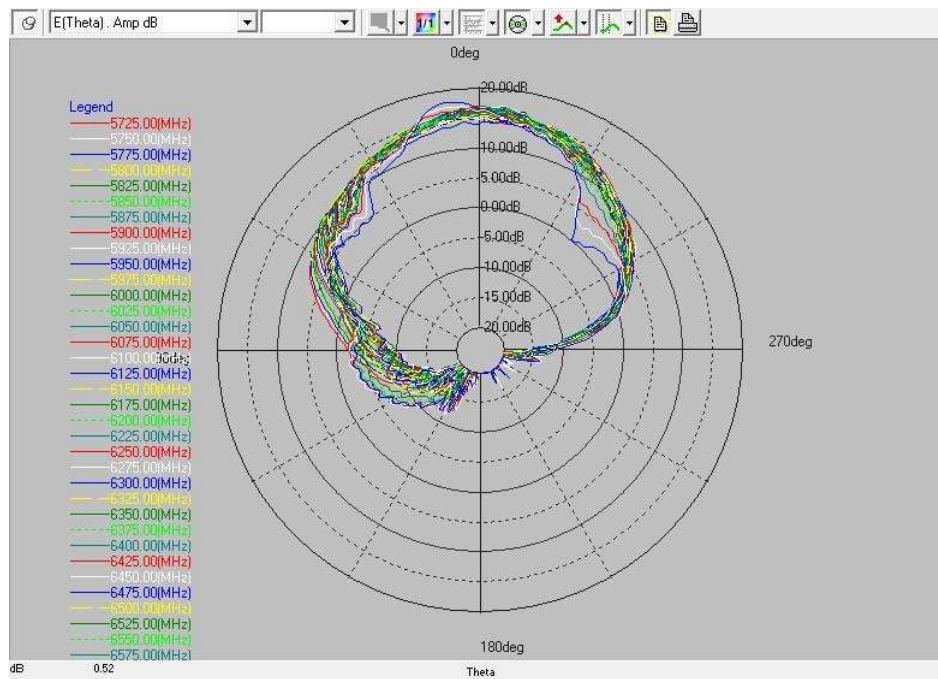
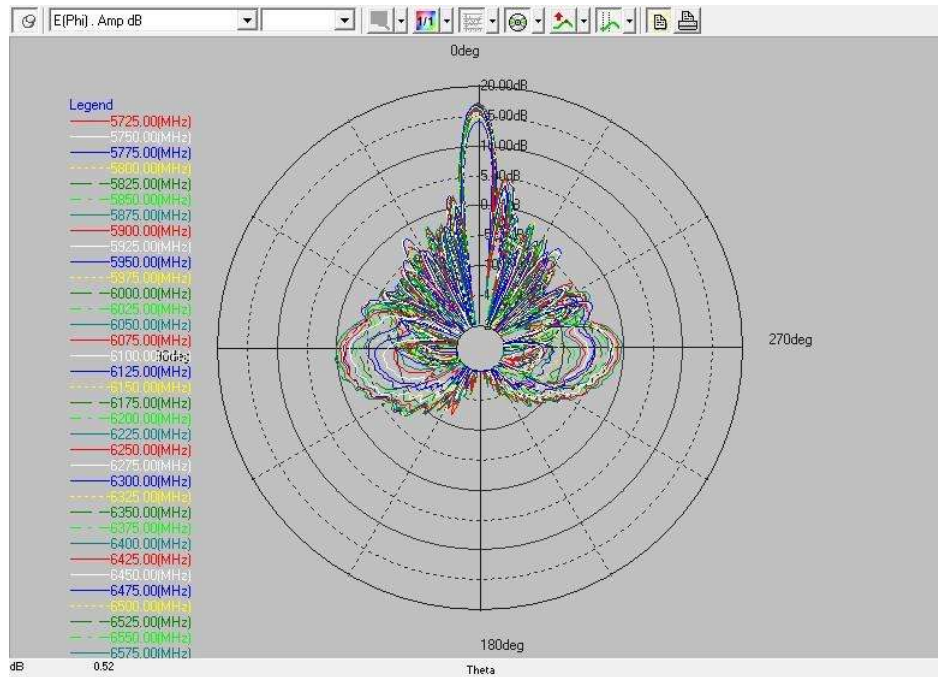


## 6. 2D Patterns

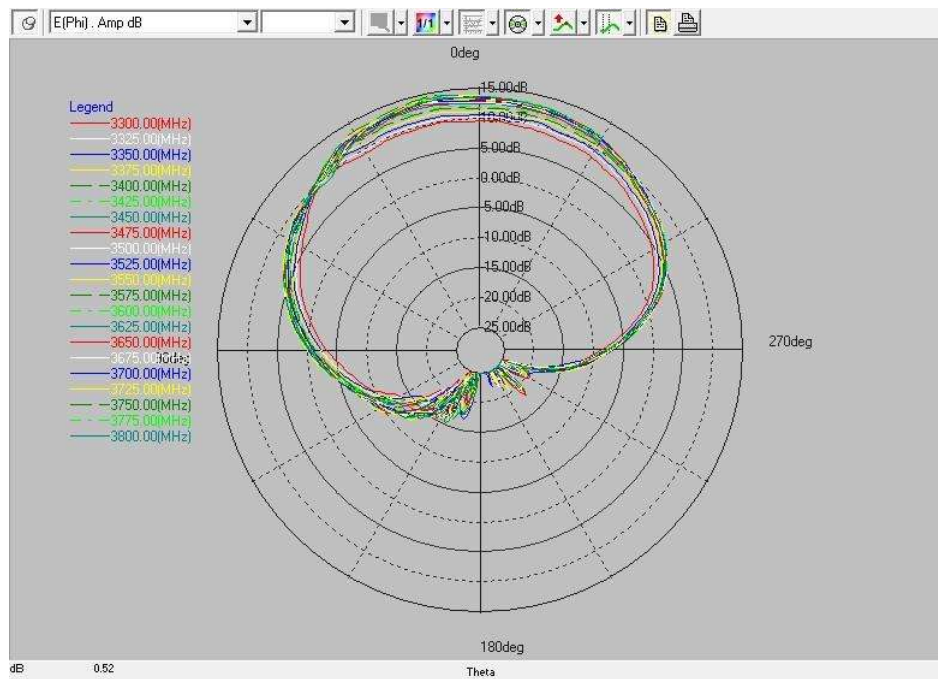
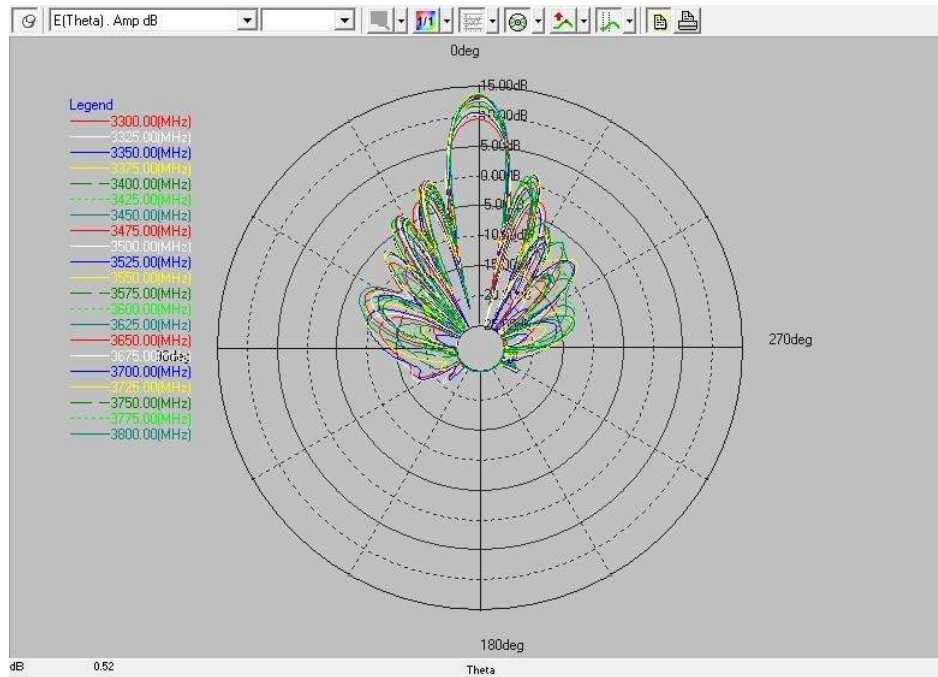
### 6.1. Antenna 0H Elevation and Azimuth Patterns, 3300 MHz to 3800MHz



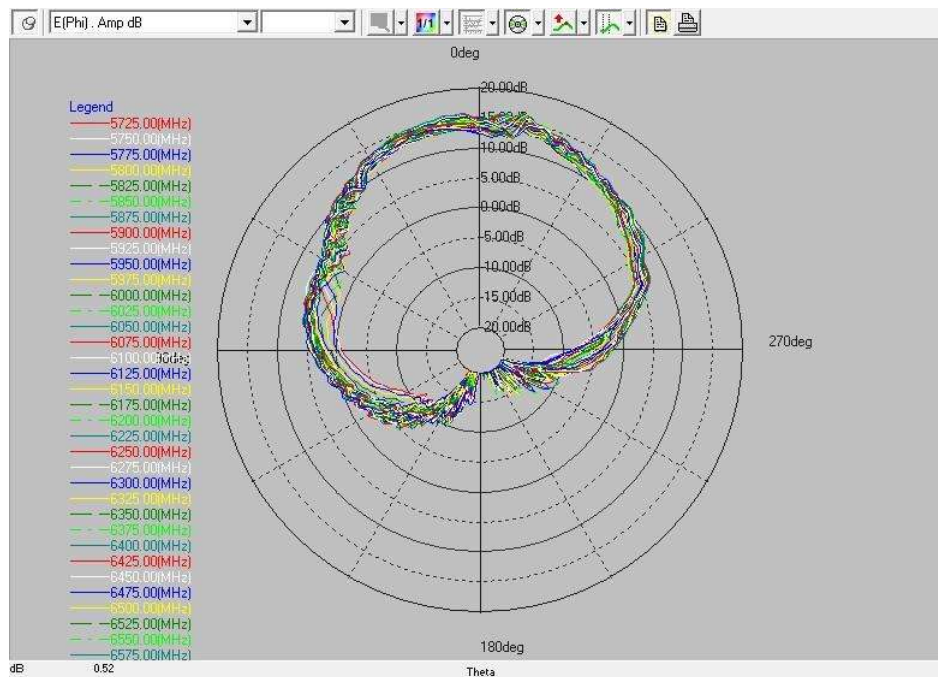
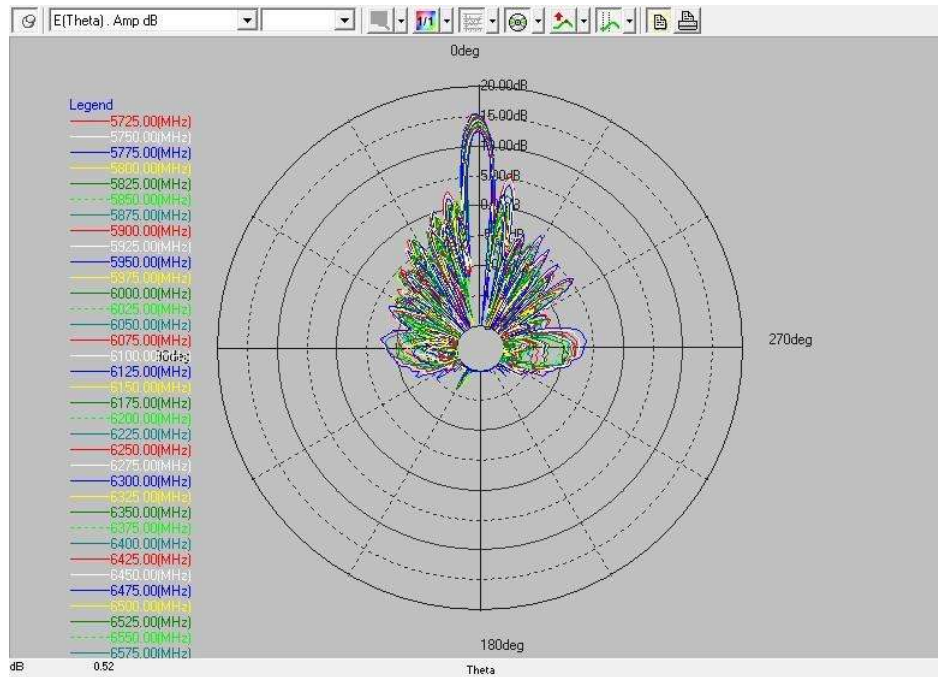
## 6.2. Antenna 0H Elevation and Azimuth Patterns, 5725MHz to 7000MHz



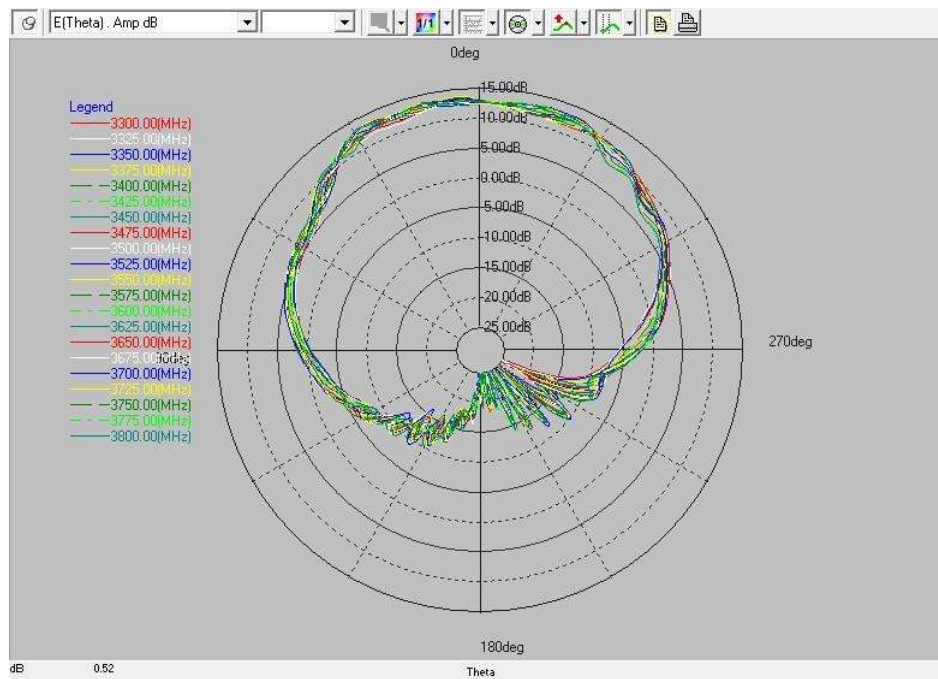
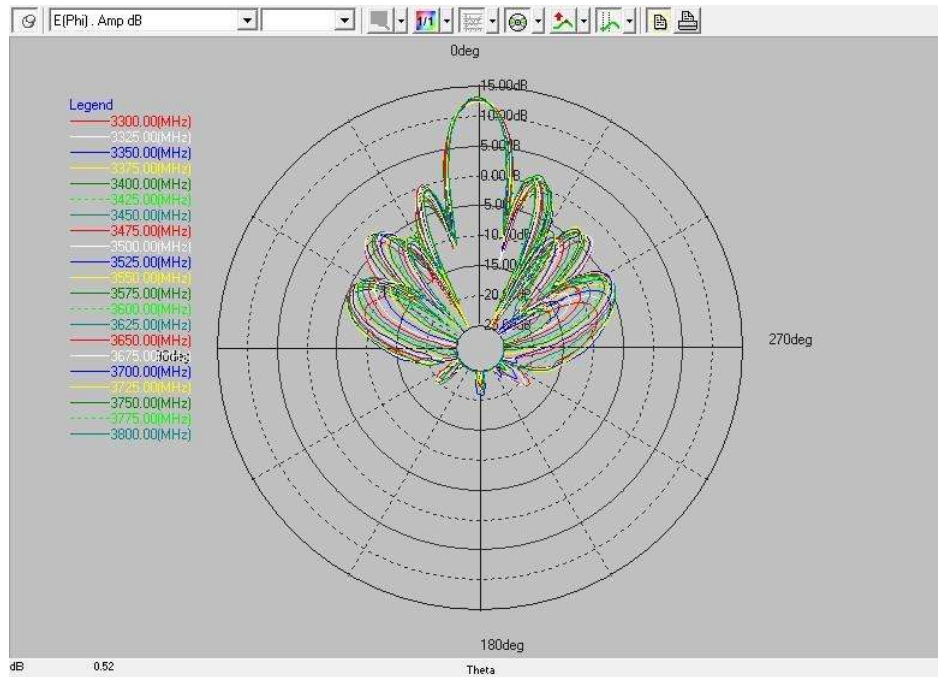
### 6.3. Antenna 1V Elevation and Azimuth Patterns, 3300 MHz to 3800MHz



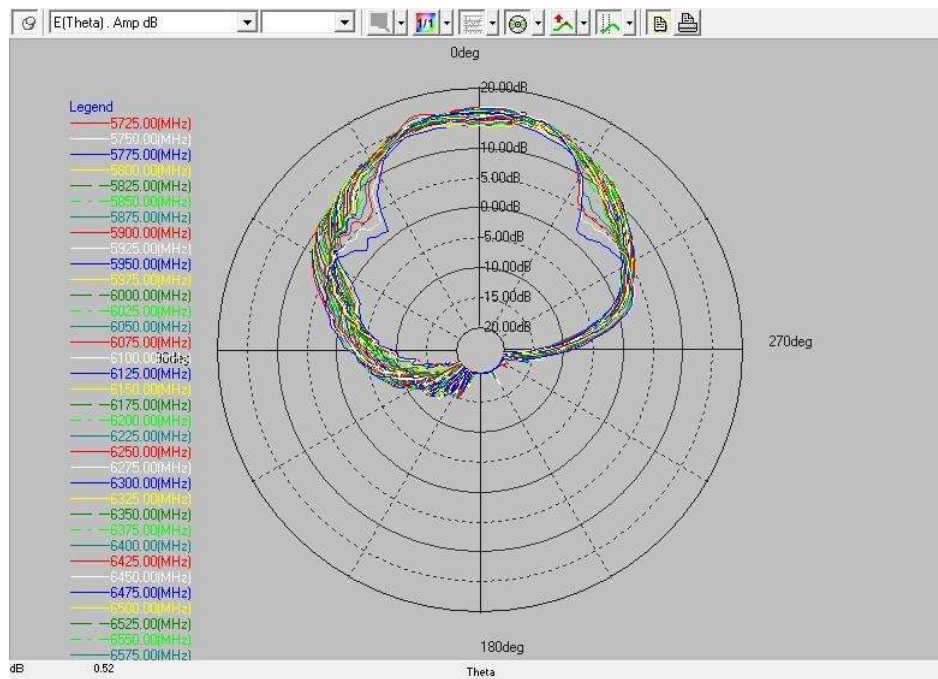
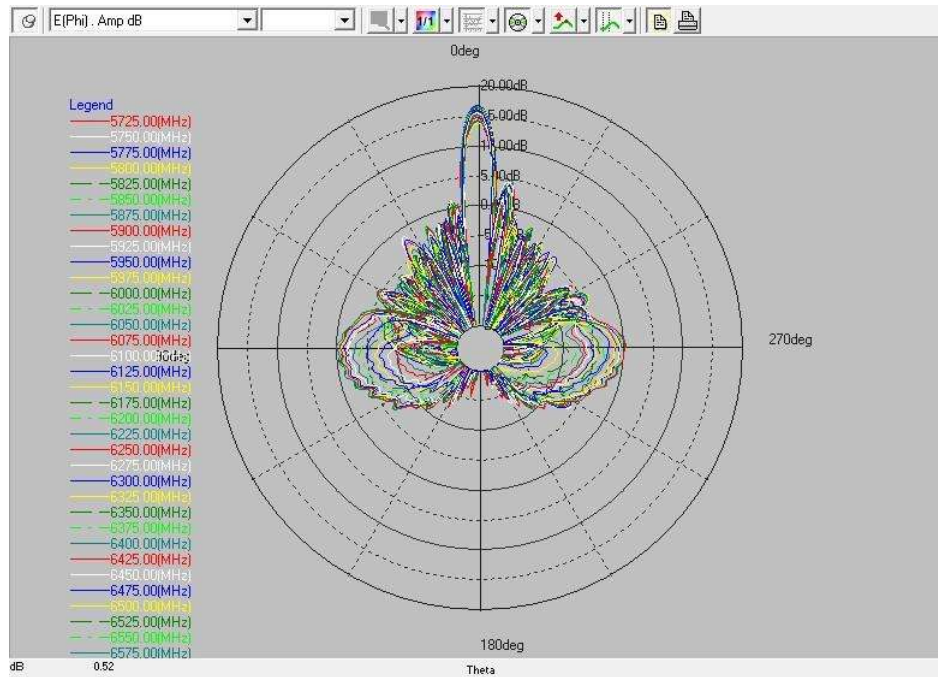
#### 6.4. Antenna 1V Elevation and Azimuth Patterns, 5725MHz to 7000MHz



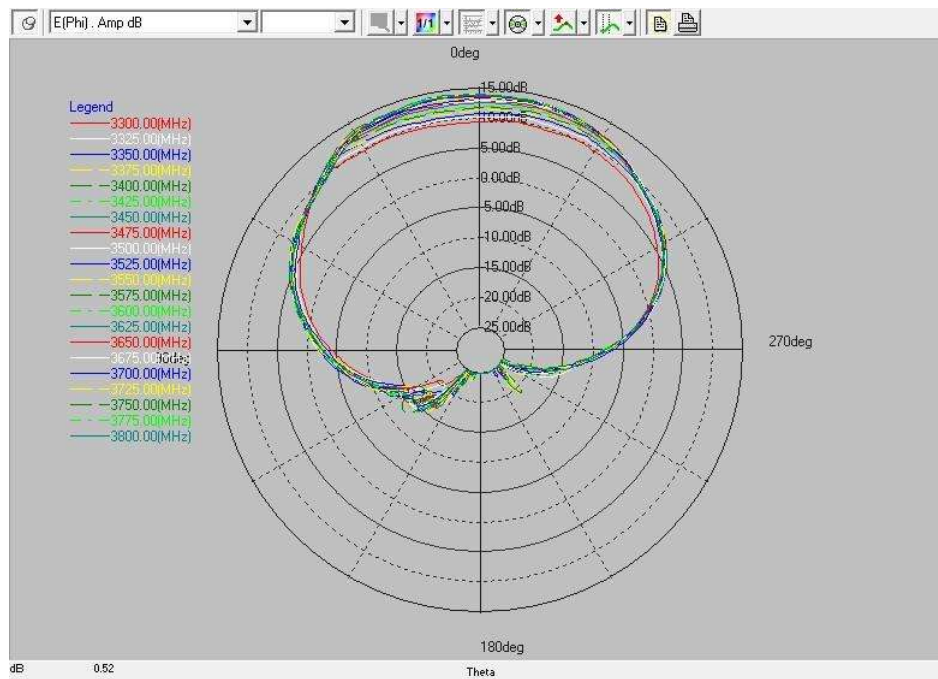
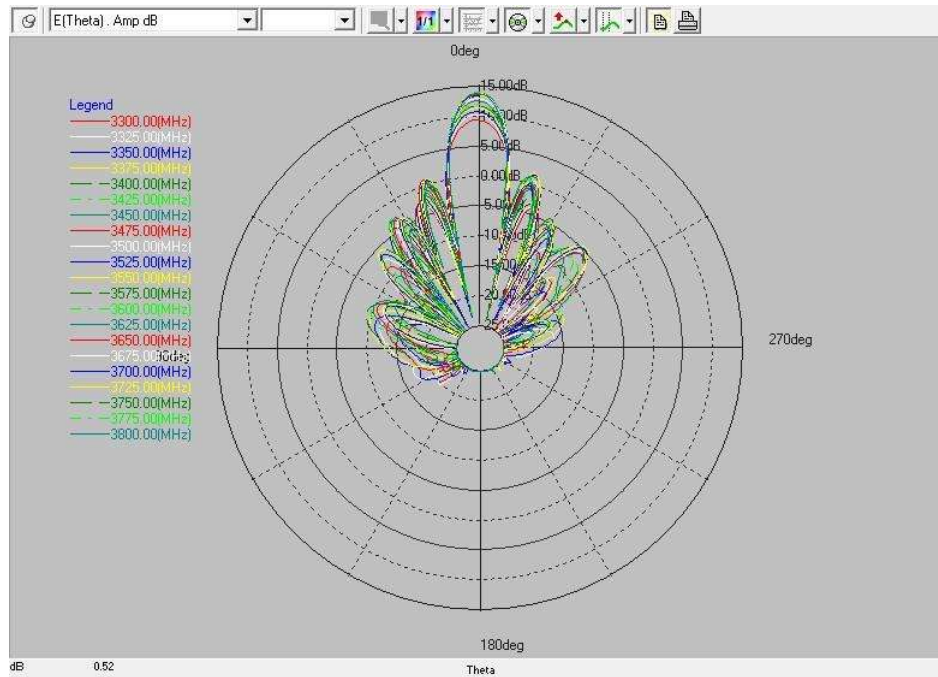
## 6.5. Antenna 2H Elevation and Azimuth Patterns, 3300 MHz to 3800MHz



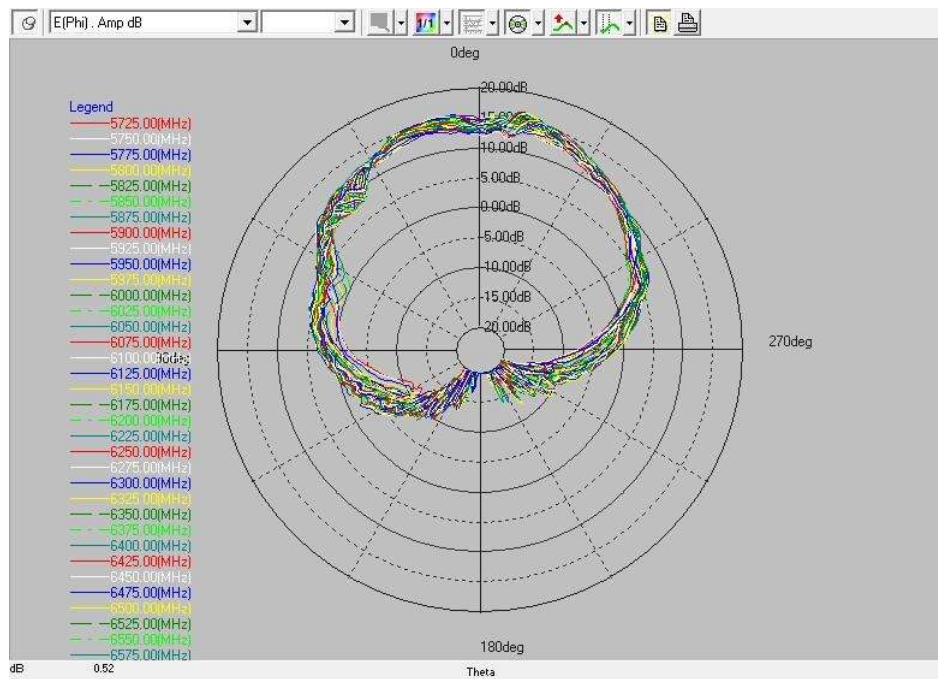
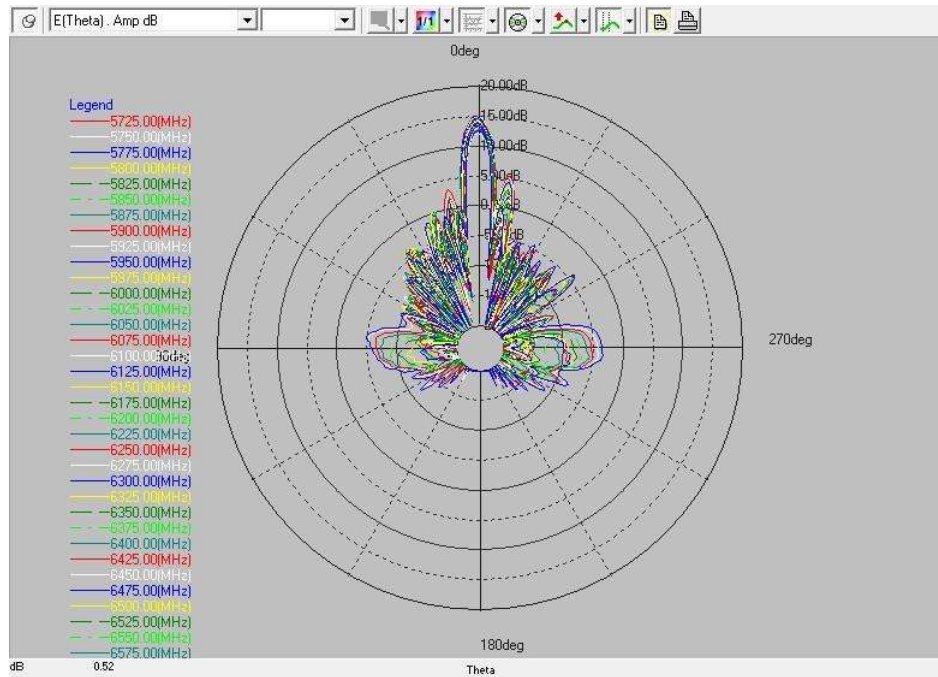
## 6.6. Antenna 2H Elevation and Azimuth Patterns, 5725MHz to 7000MHz



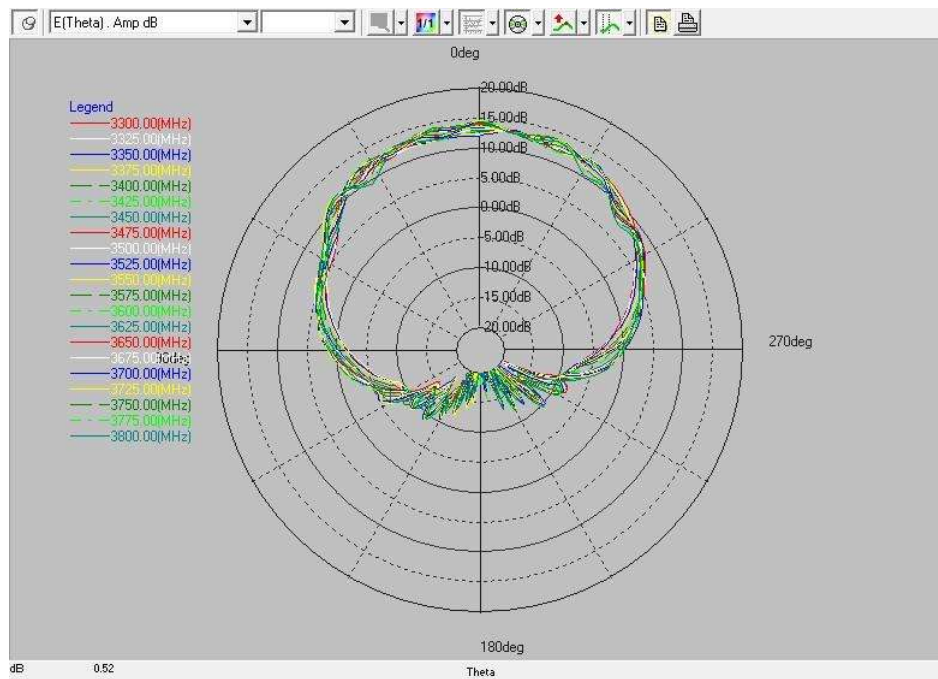
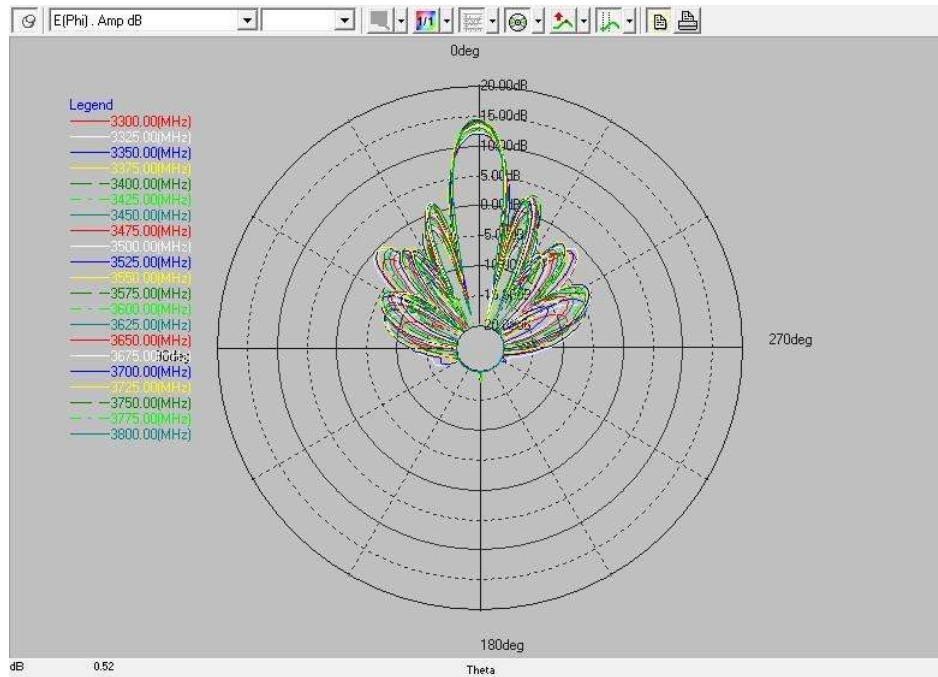
## 6.7. Antenna 3V Elevation and Azimuth Patterns, 3300 MHz to 3800MHz



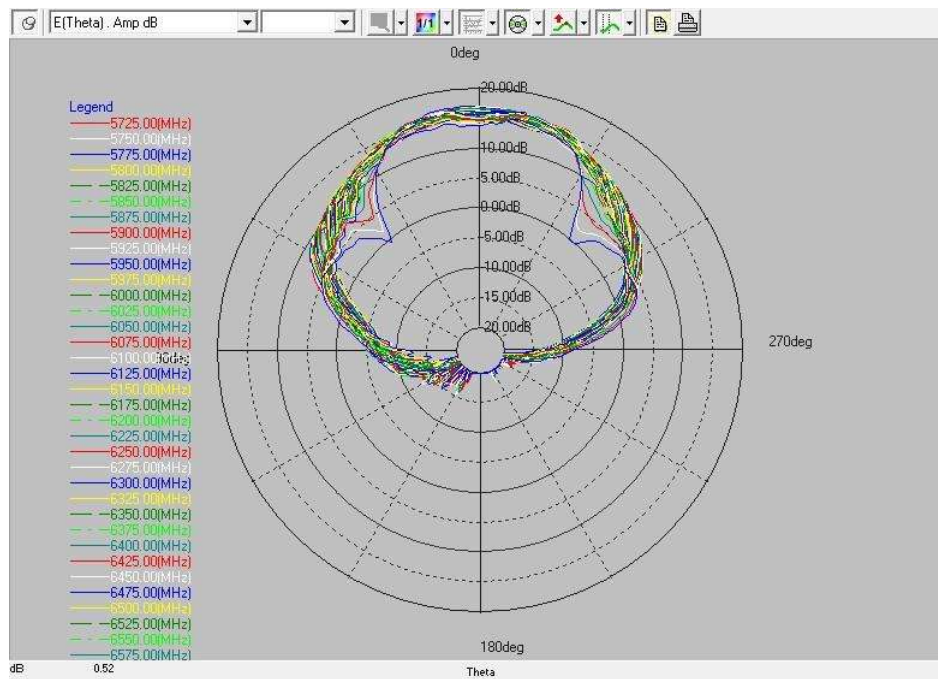
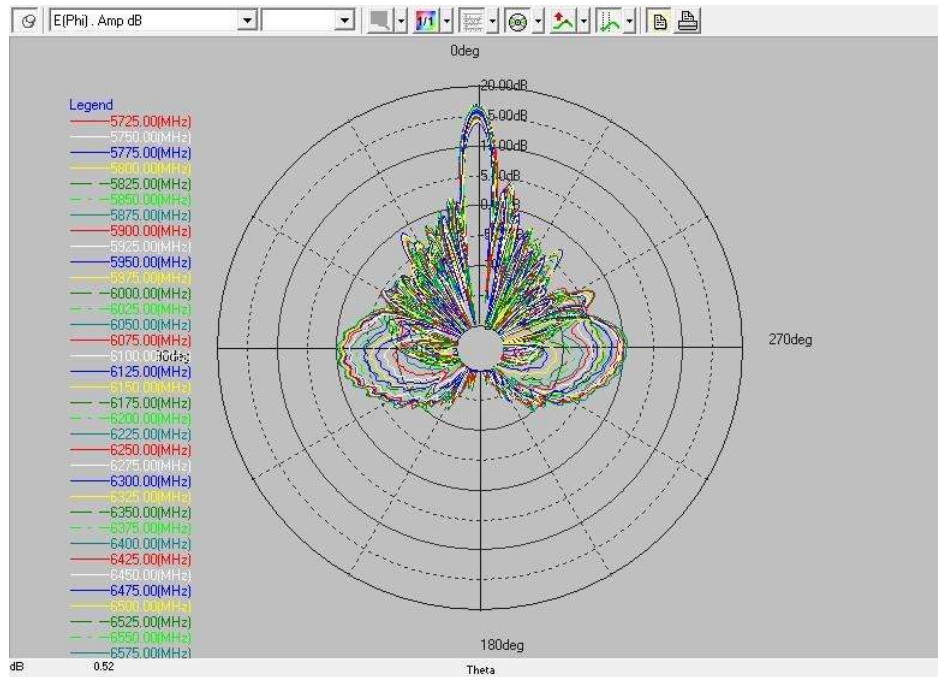
## 6.8. Antenna 3V Elevation and Azimuth Patterns, 5725MHz to 7000MHz



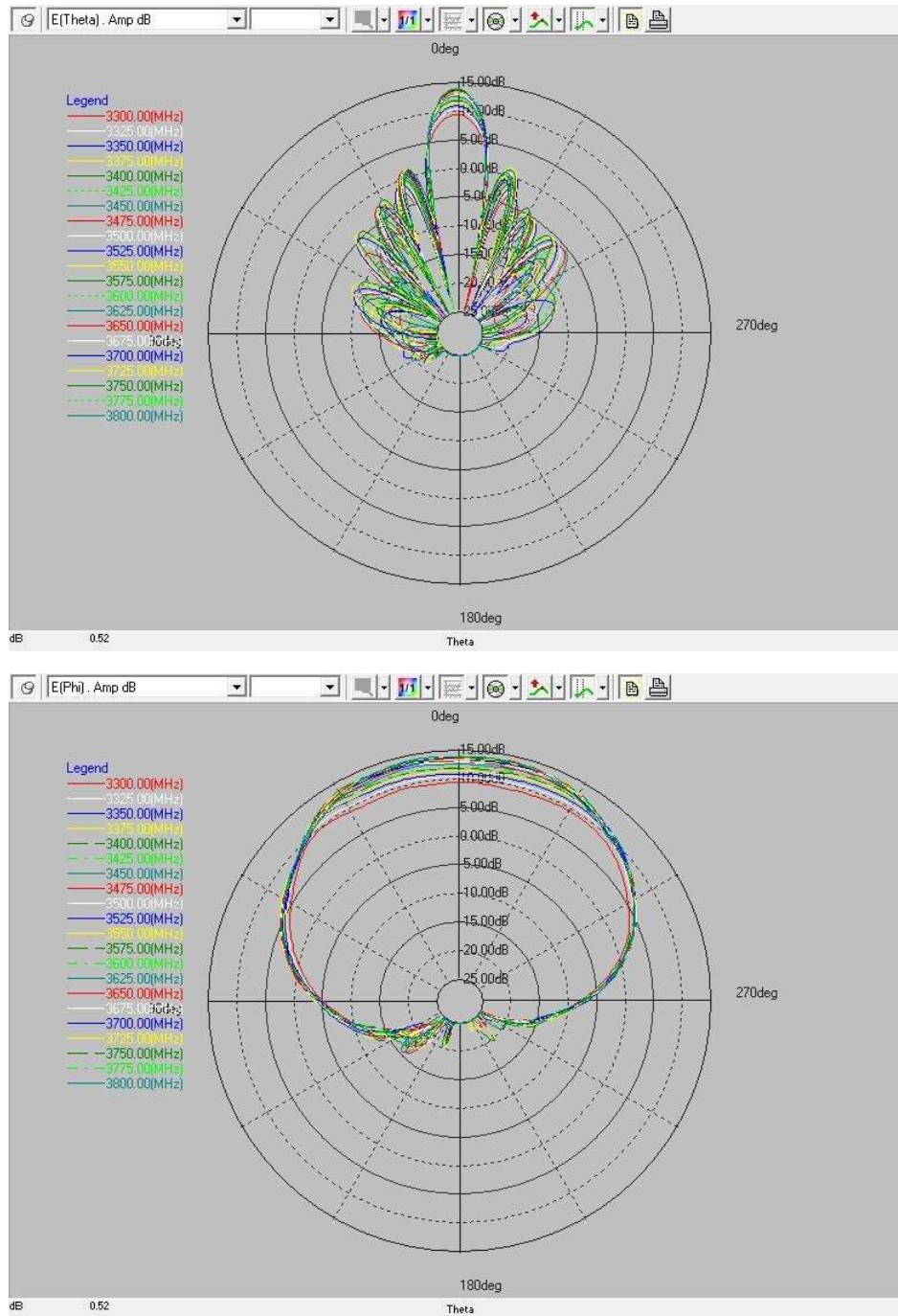
## 6.9. Antenna 4H Elevation and Azimuth Patterns, 3300 MHz to 3800MHz



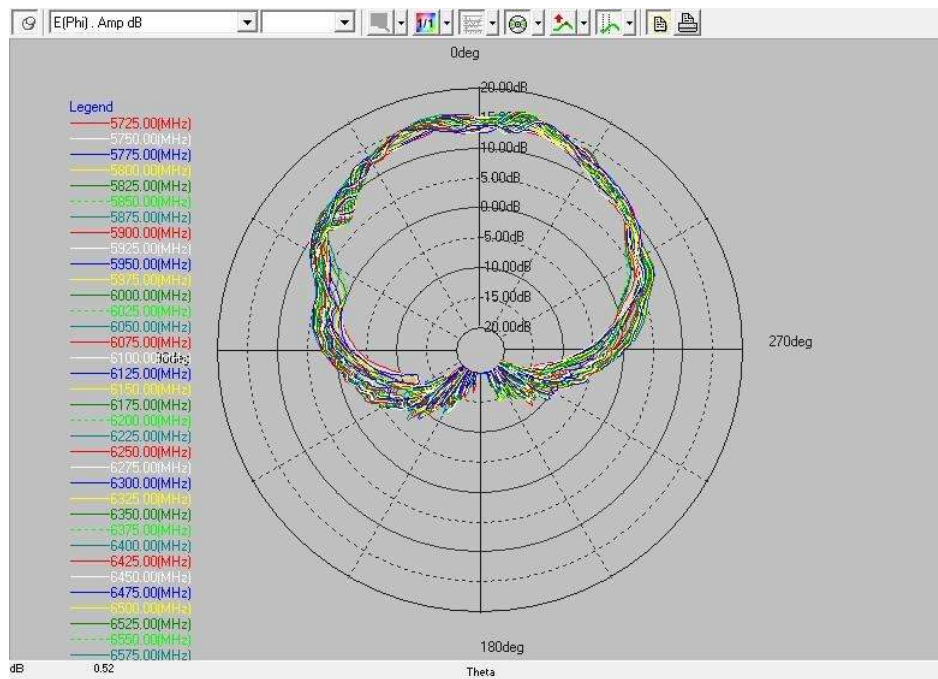
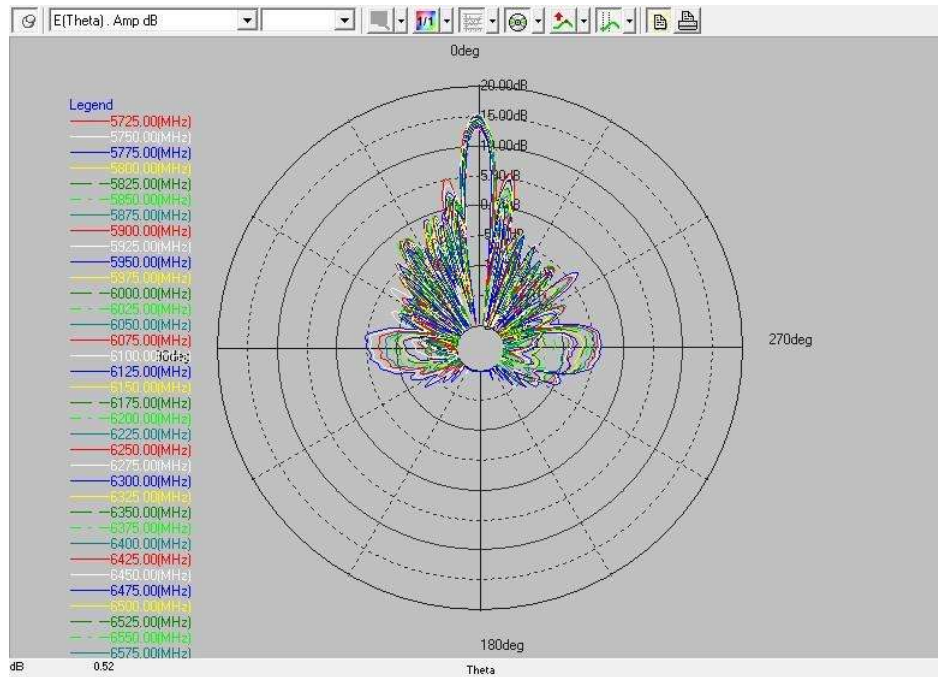
## 6.10. Antenna 4H Elevation and Azimuth Patterns, 5725MHz to 7000MHz



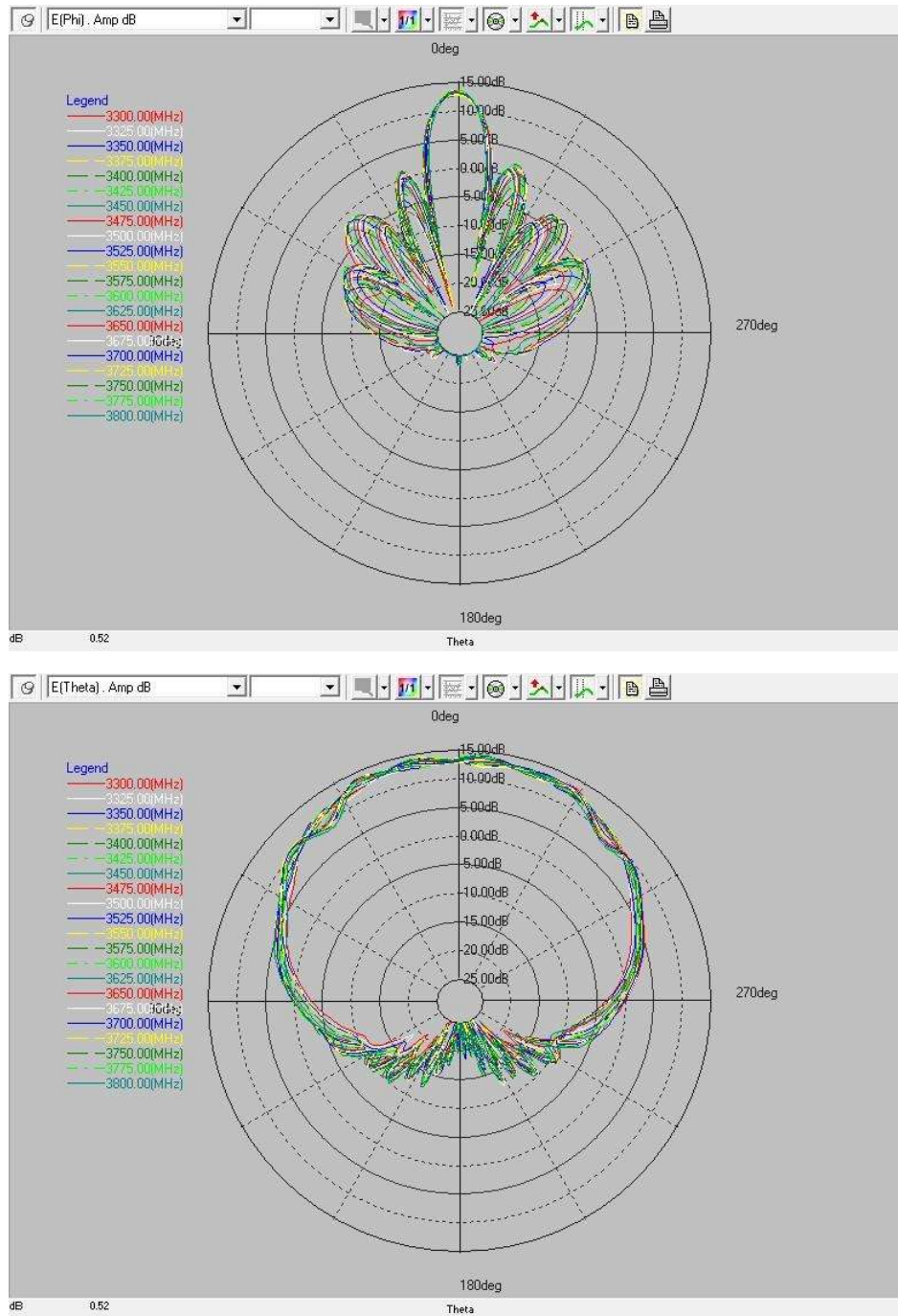
# 6.11. Antenna 5V Elevation and Azimuth Patterns, 3300 MHz to 3800MHz



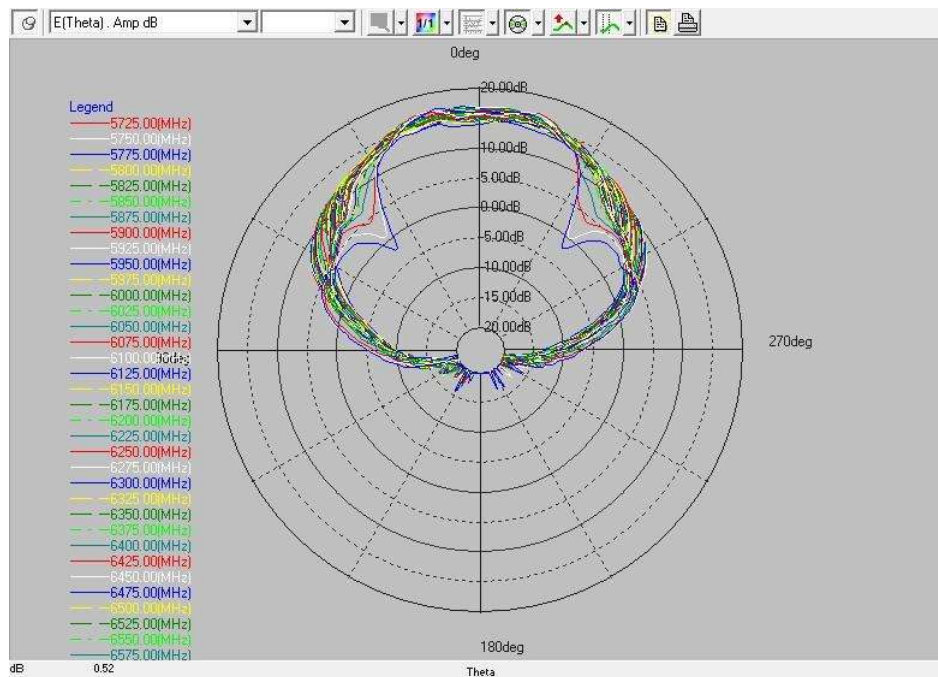
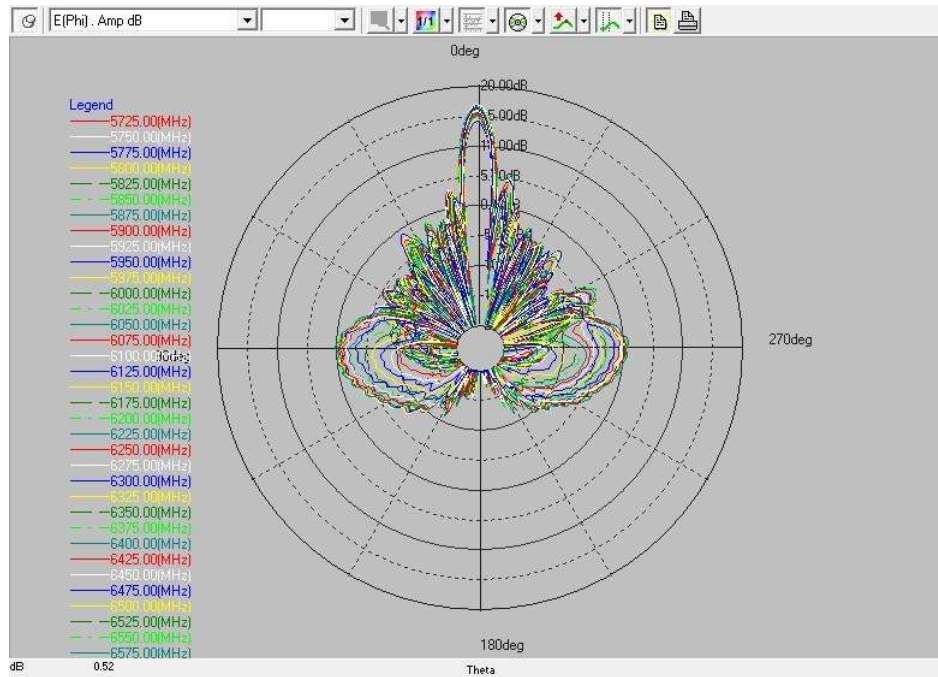
## 6.12. Antenna 5V Elevation and Azimuth Patterns, 5725MHz to 7000MHz



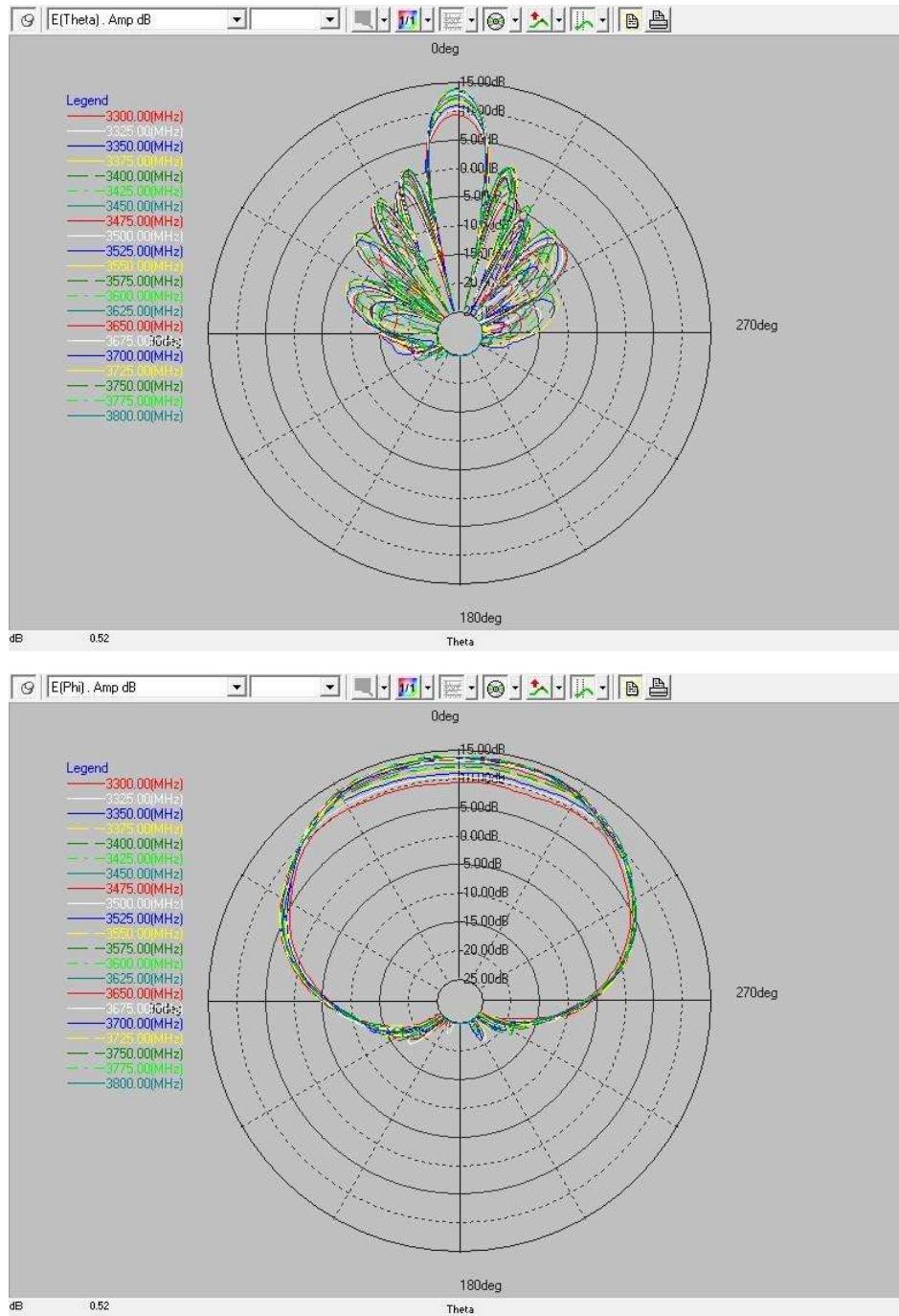
### 6.13. Antenna 6H Elevation and Azimuth Patterns, 3300 MHz to 3800MHz



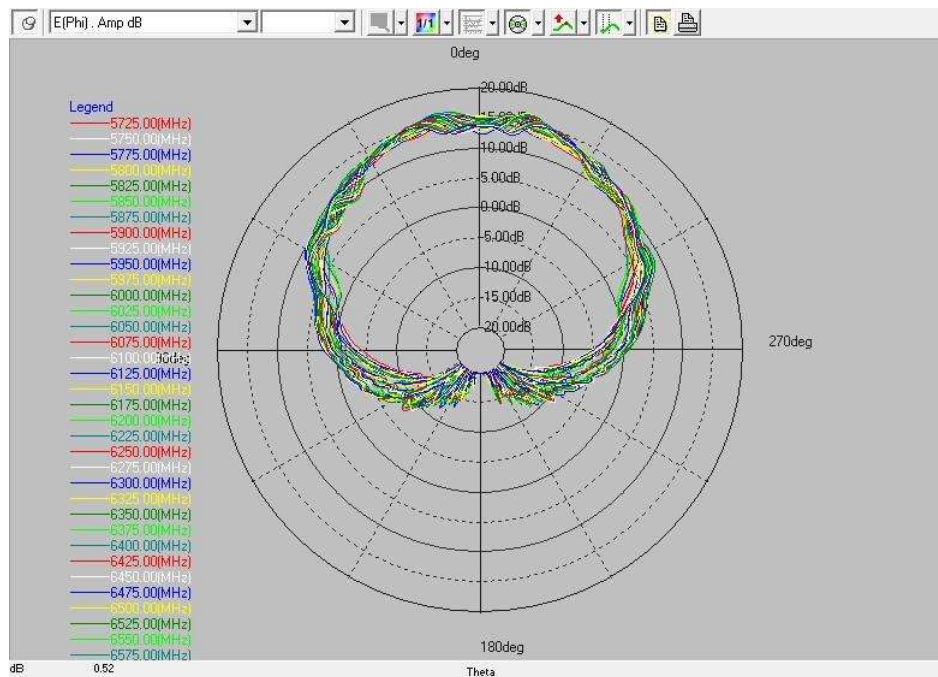
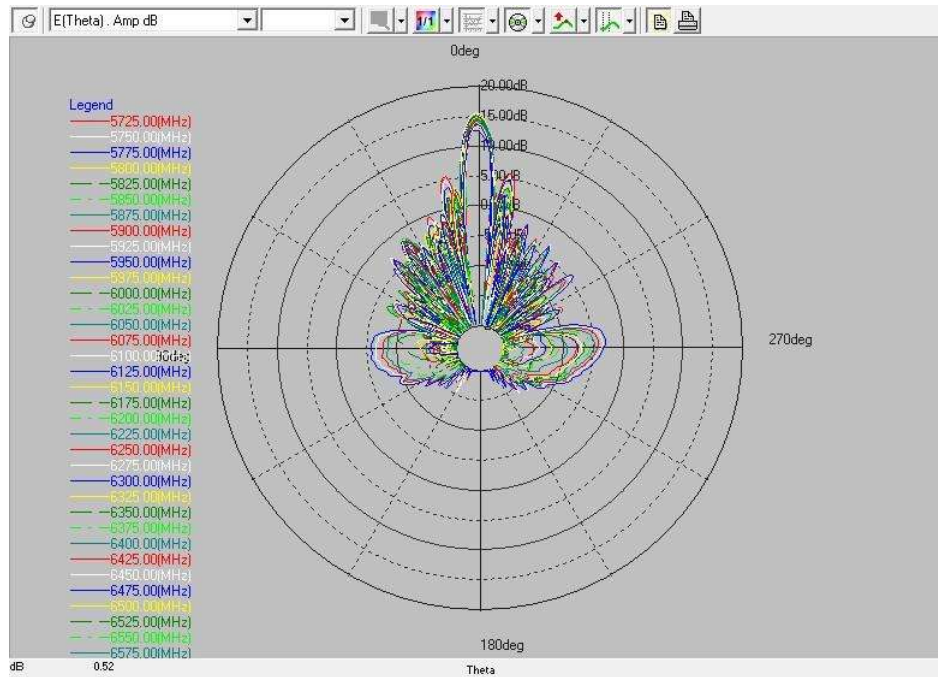
# 6.14. Antenna 6H Elevation and Azimuth Patterns, 5725MHz to 7000MHz



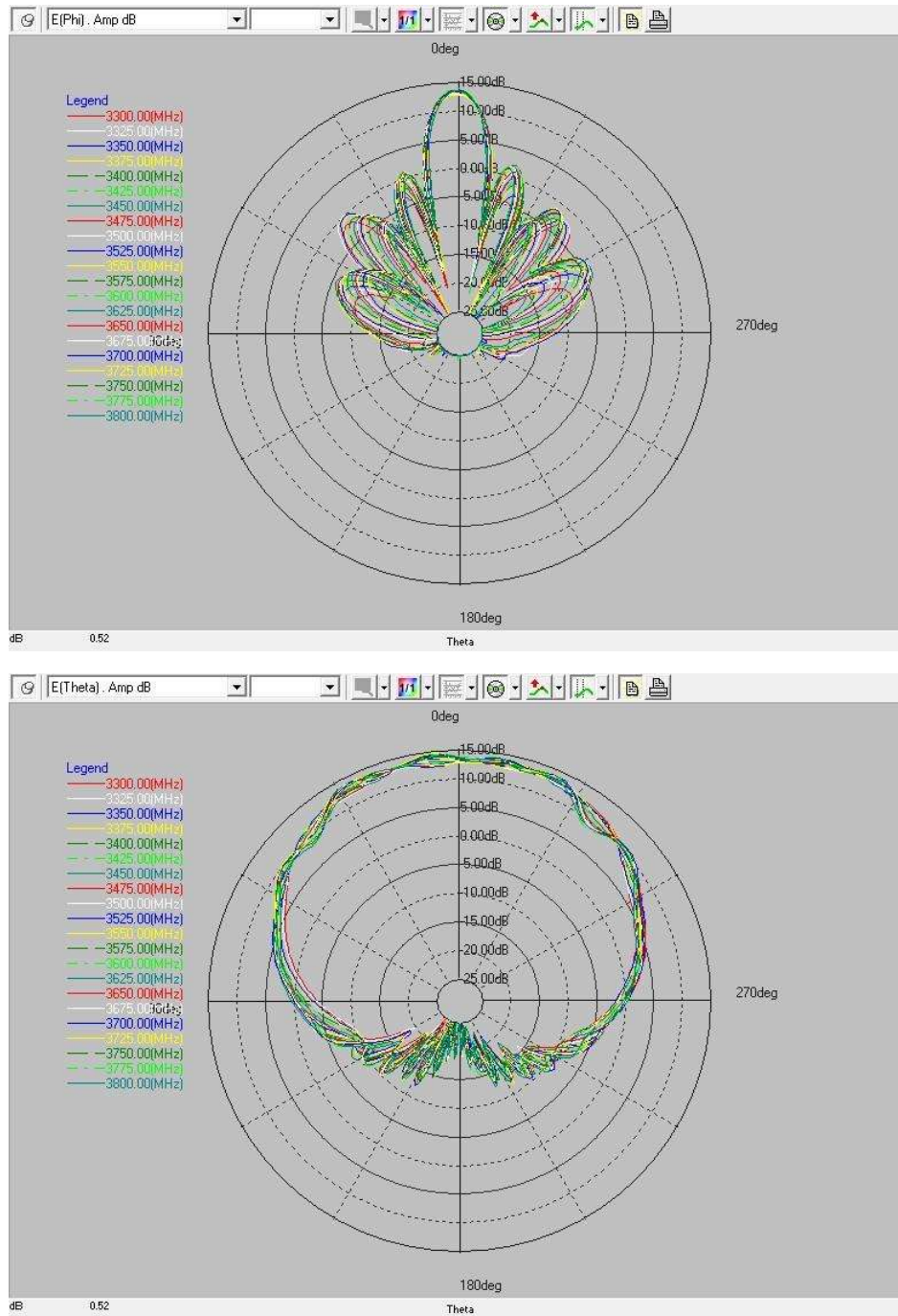
# 6.15. Antenna 7V Elevation and Azimuth Patterns, 3300 MHz to 3800MHz



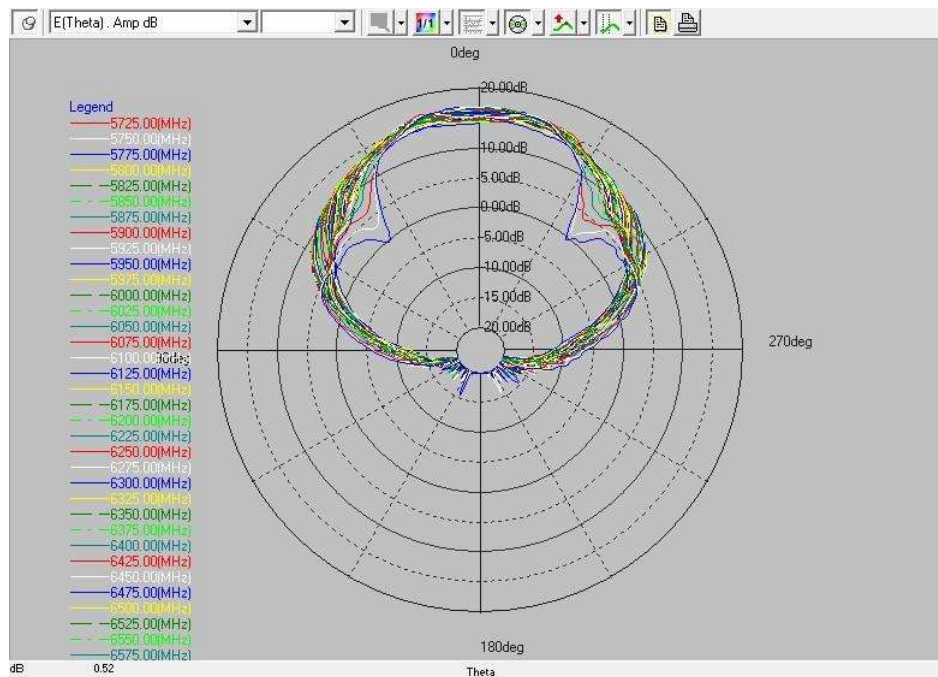
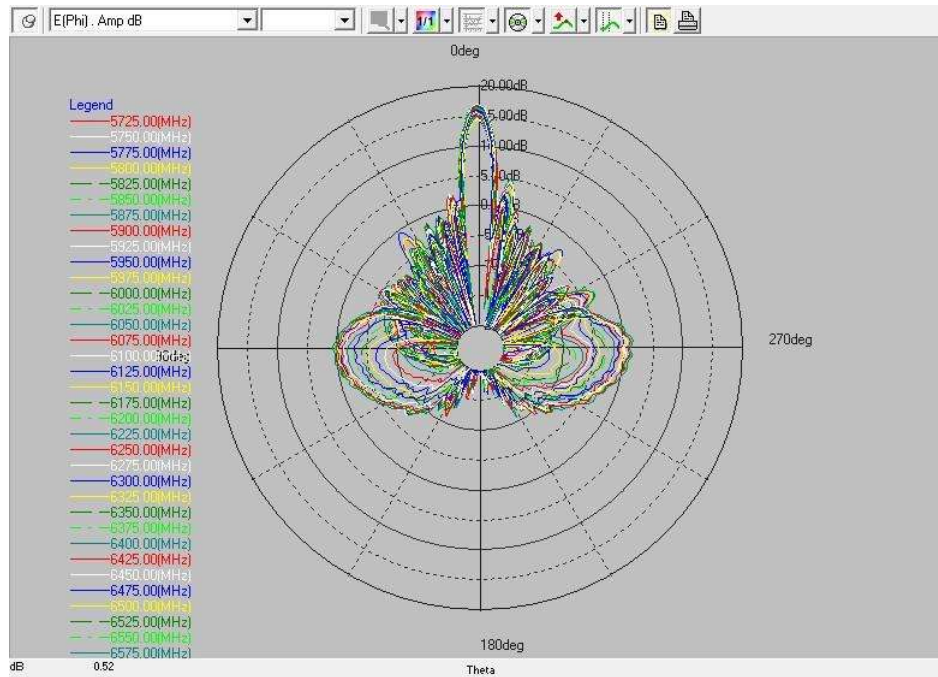
# 6.16. Antenna 7V Elevation and Azimuth Patterns, 5725MHz to 7000MHz



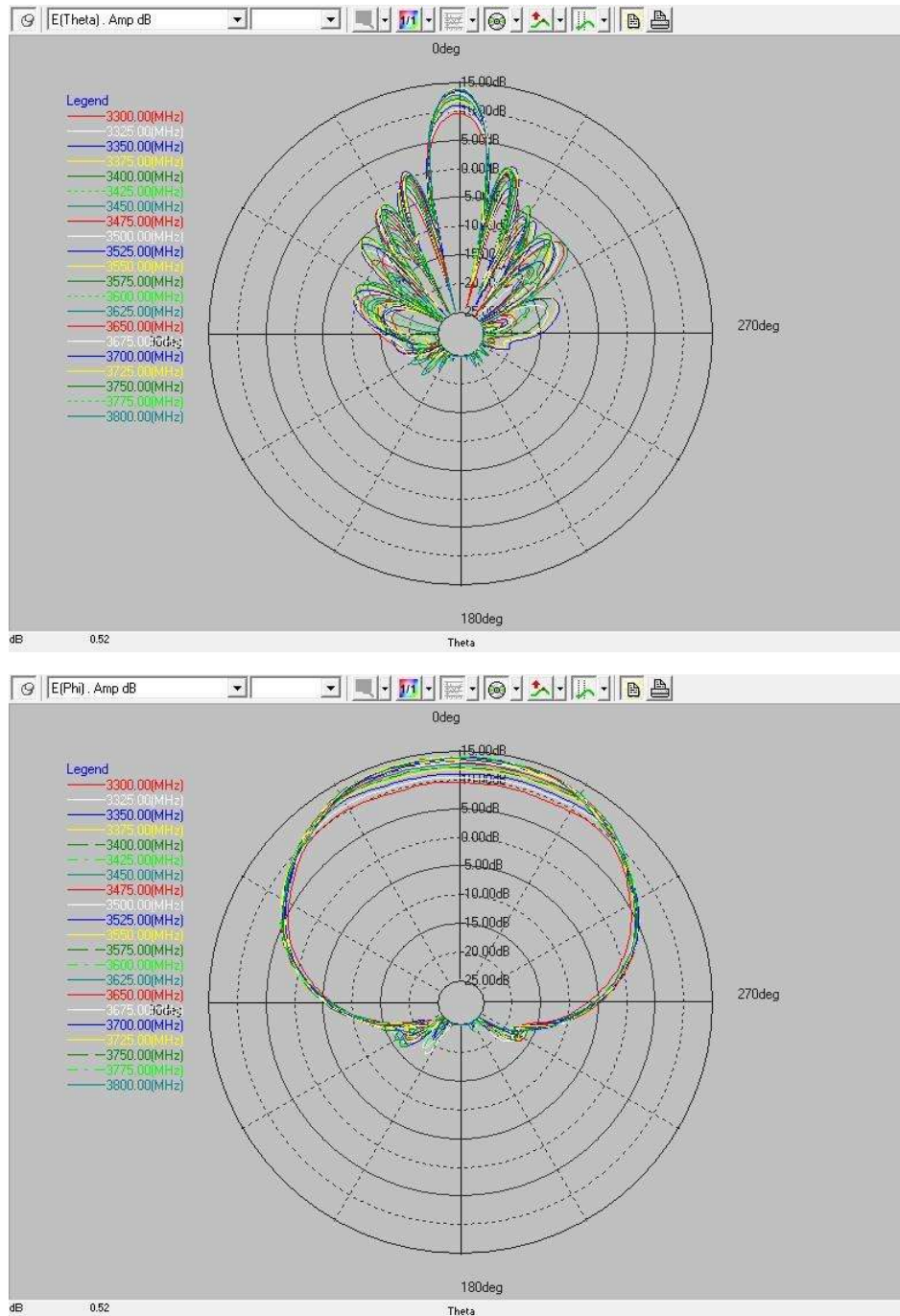
# 6.17. Antenna 8H Elevation and Azimuth Patterns, 3300 MHz to 3800MHz



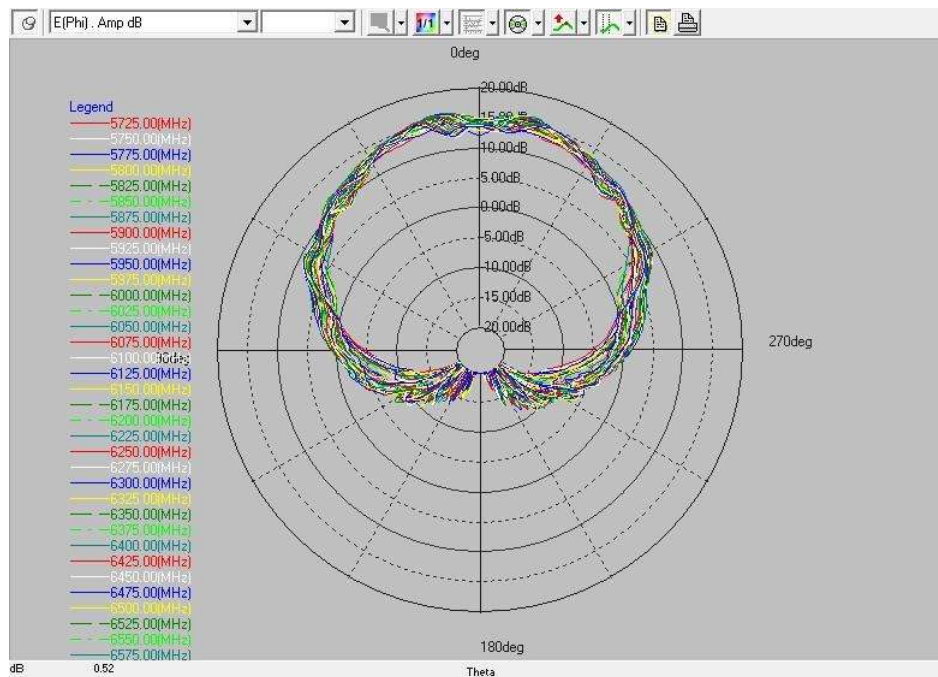
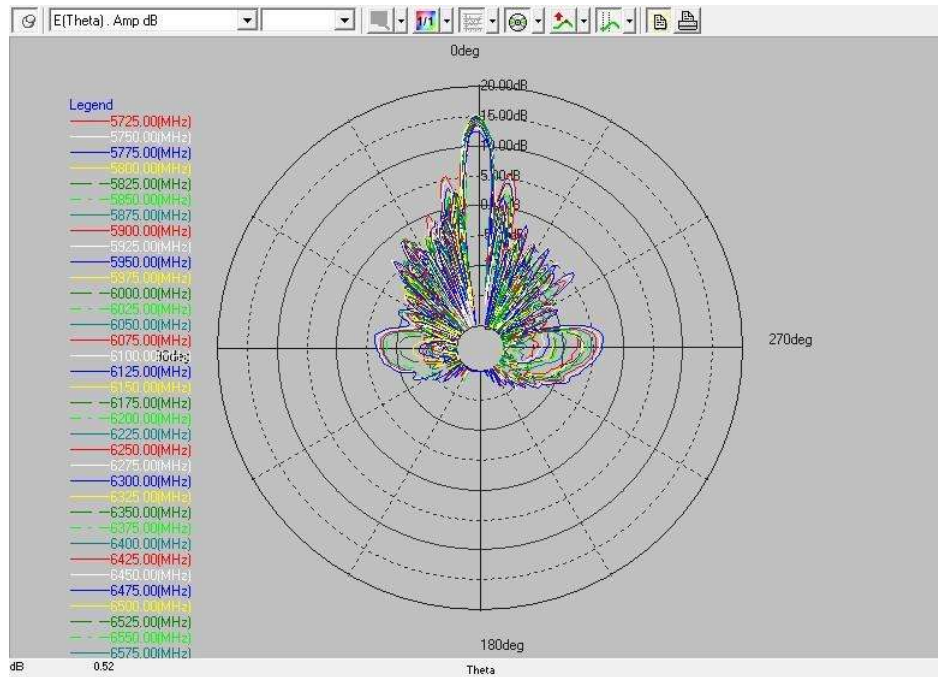
# 6.18. Antenna 8H Elevation and Azimuth Patterns, 5725MHz to 7000MHz



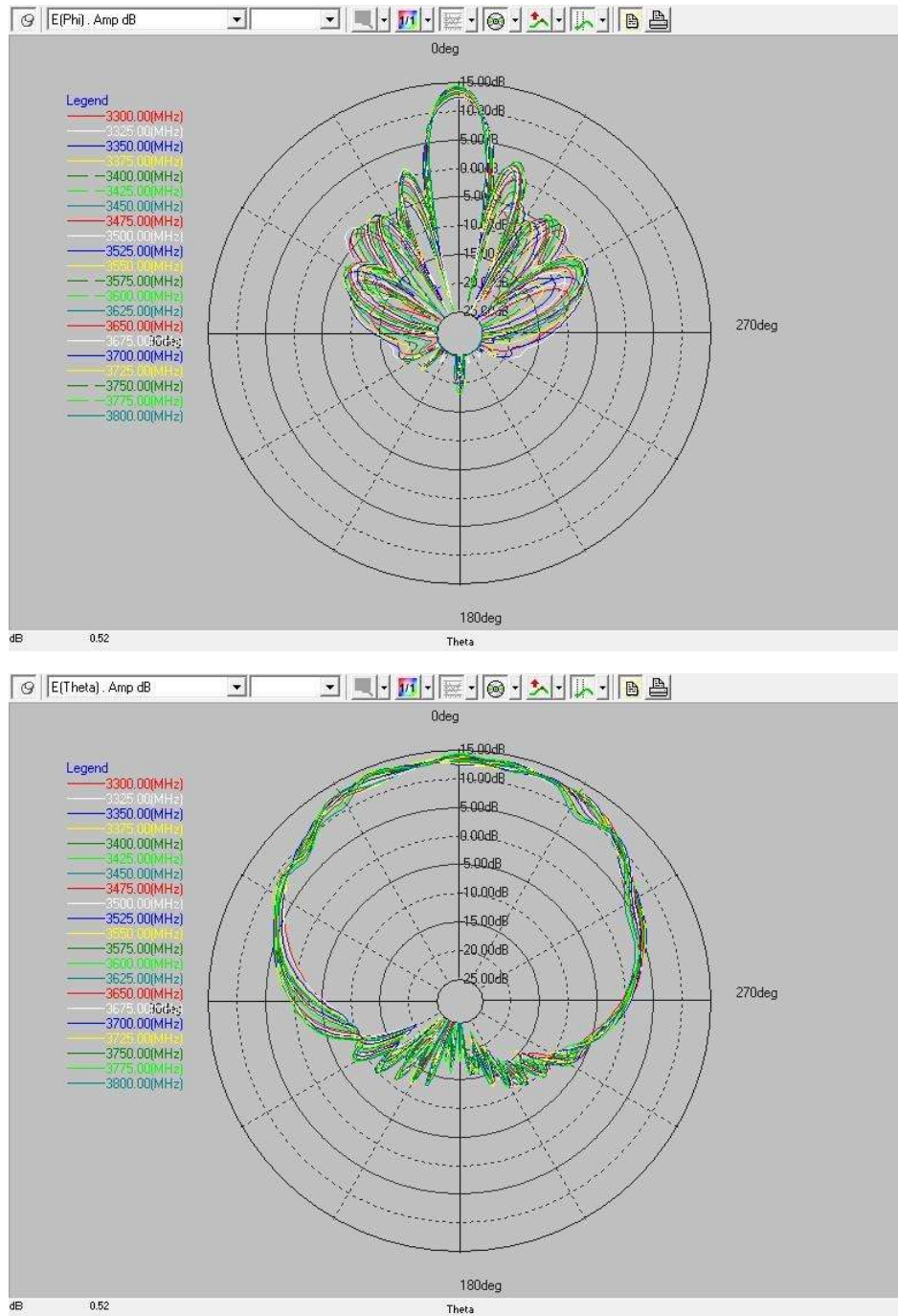
# 6.19. Antenna 9V Elevation and Azimuth Patterns, 3300 MHz to 3800MHz



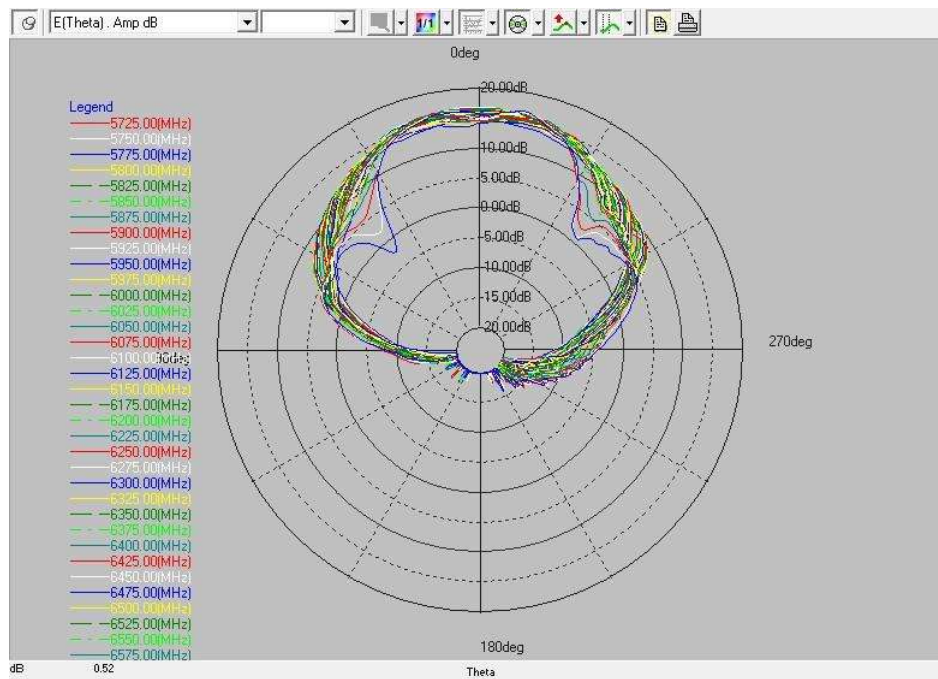
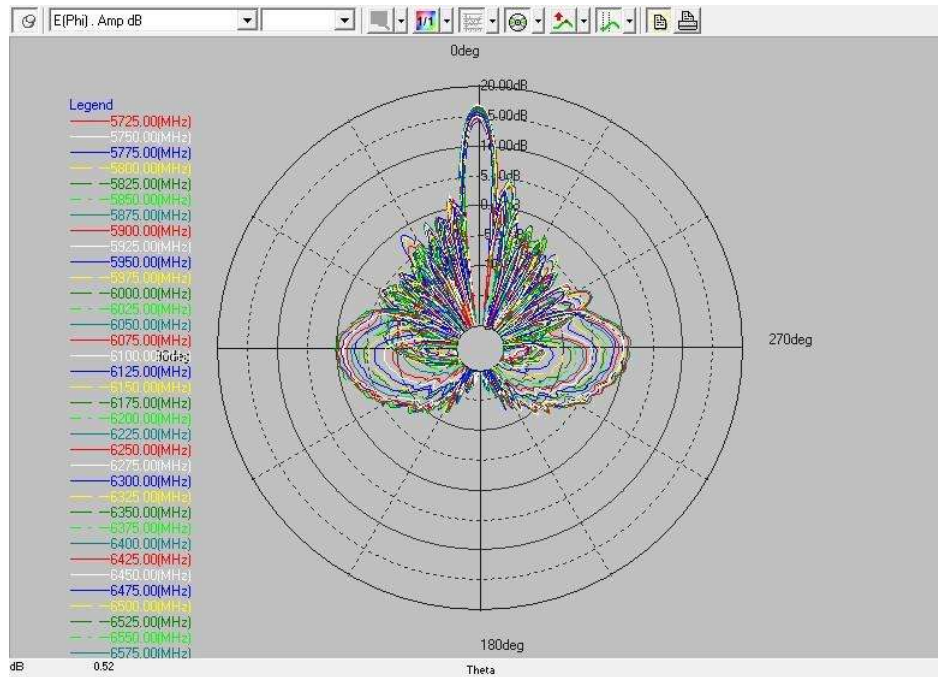
## 6.20. Antenna 9V Elevation and Azimuth Patterns, 5725MHz to 7000MHz



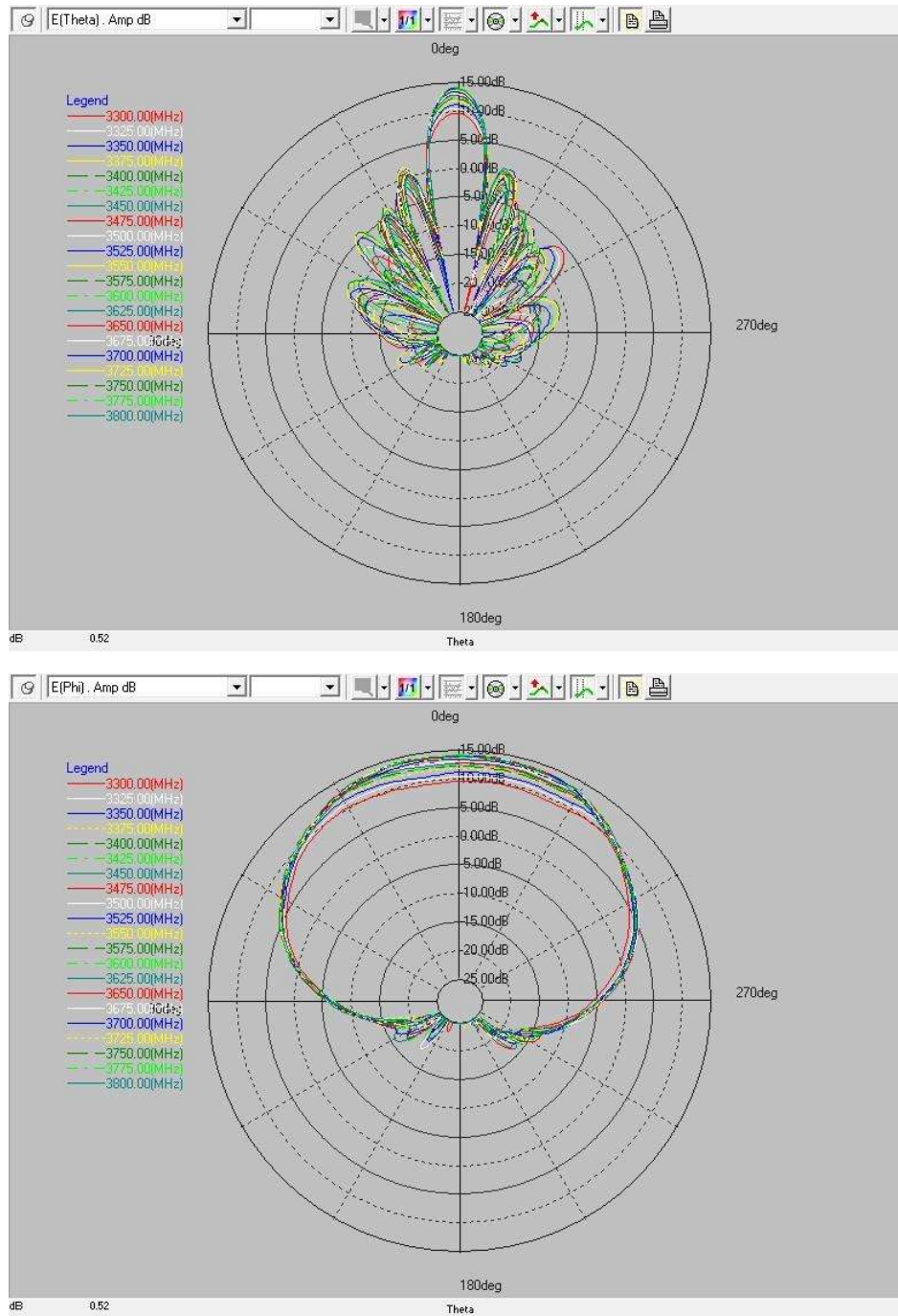
## 6.21. Antenna 10H Elevation and Azimuth Patterns, 3300 MHz to 3800MHz



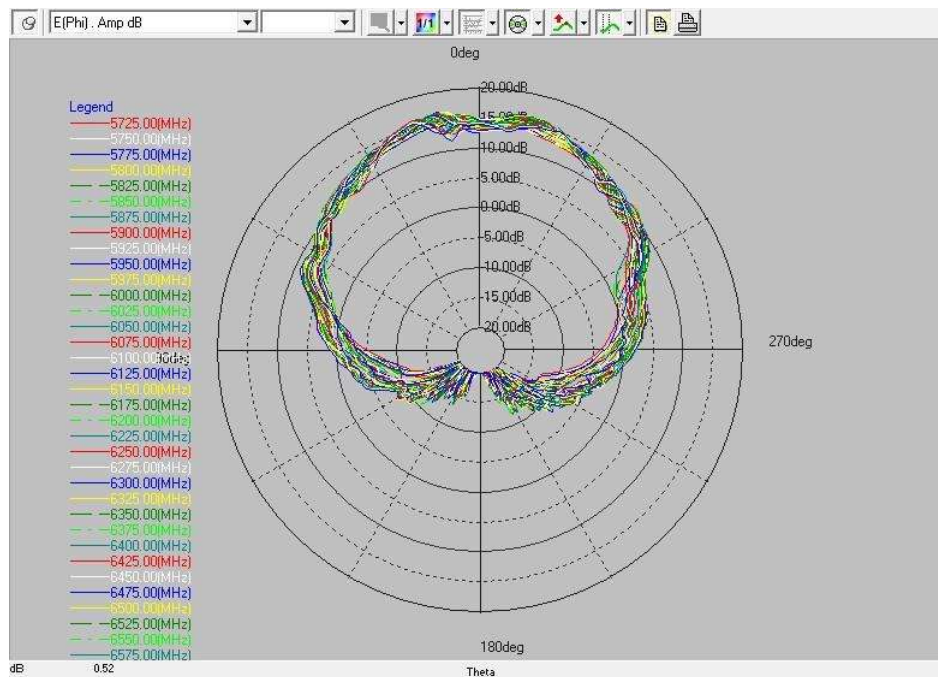
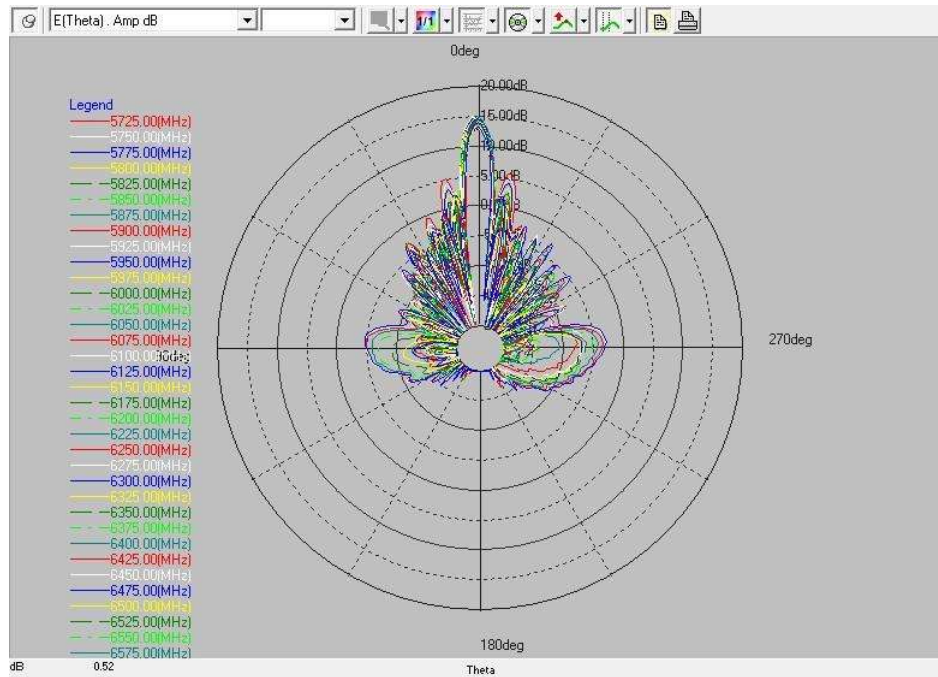
## 6.22. Antenna 10H Elevation and Azimuth Patterns, 5725MHz to 7000MHz



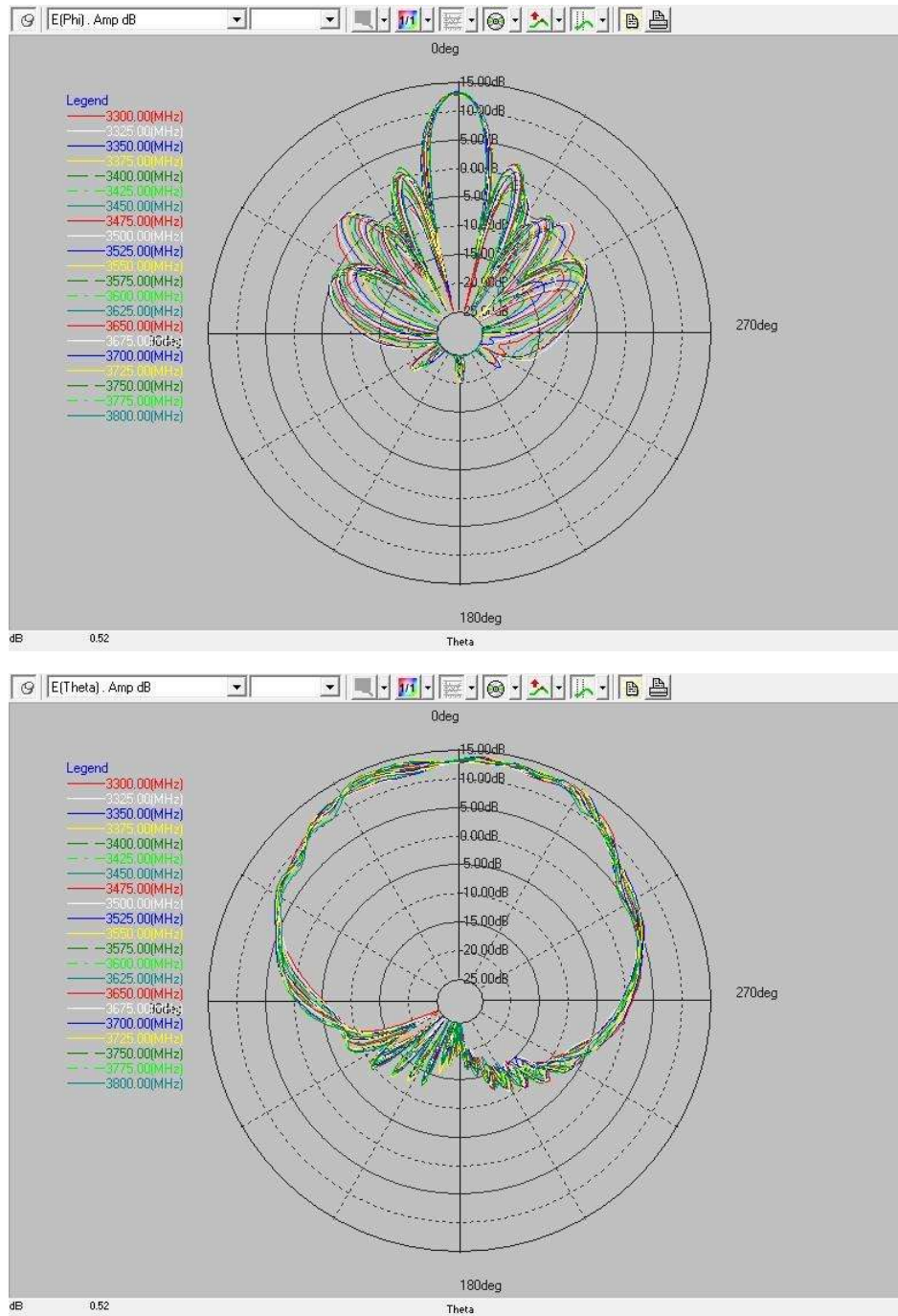
## 6.23. Antenna 11V Elevation and Azimuth Patterns, 3300 MHz to 3800MHz



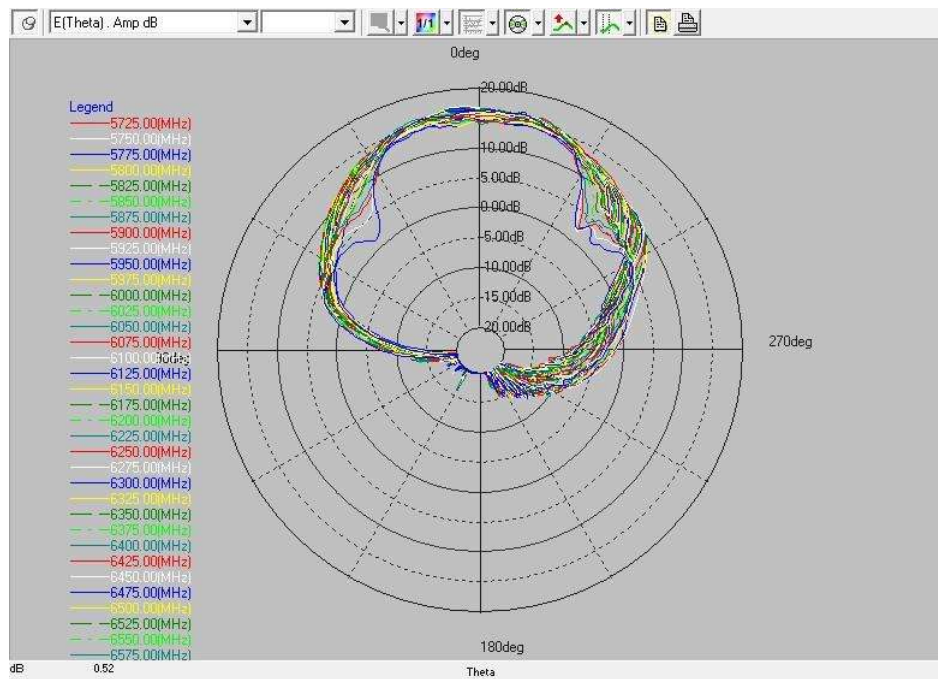
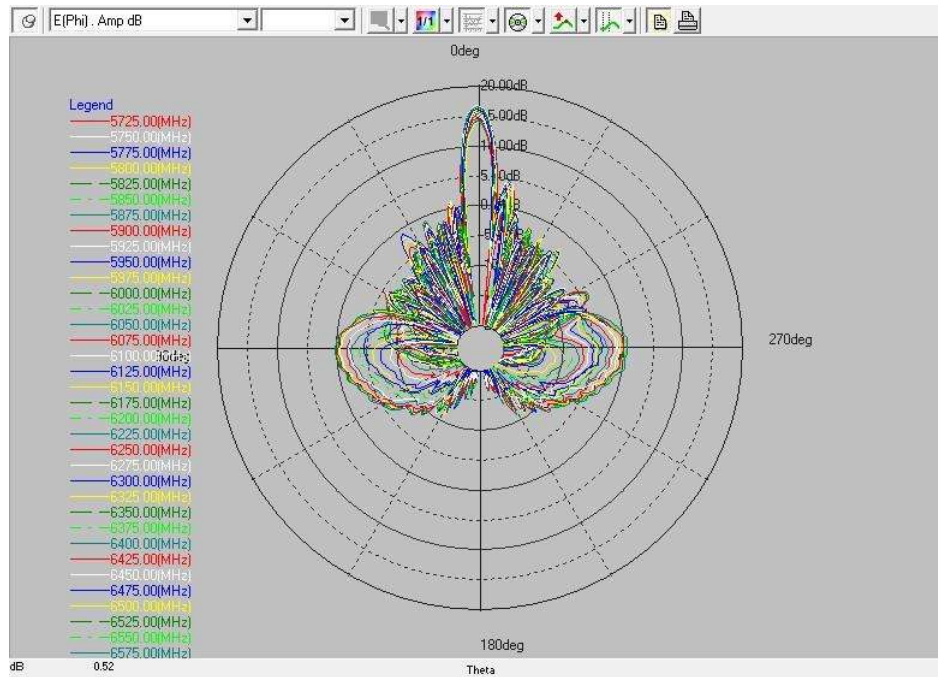
## 6.24. Antenna 11V Elevation and Azimuth Patterns, 5725MHz to 7000MHz



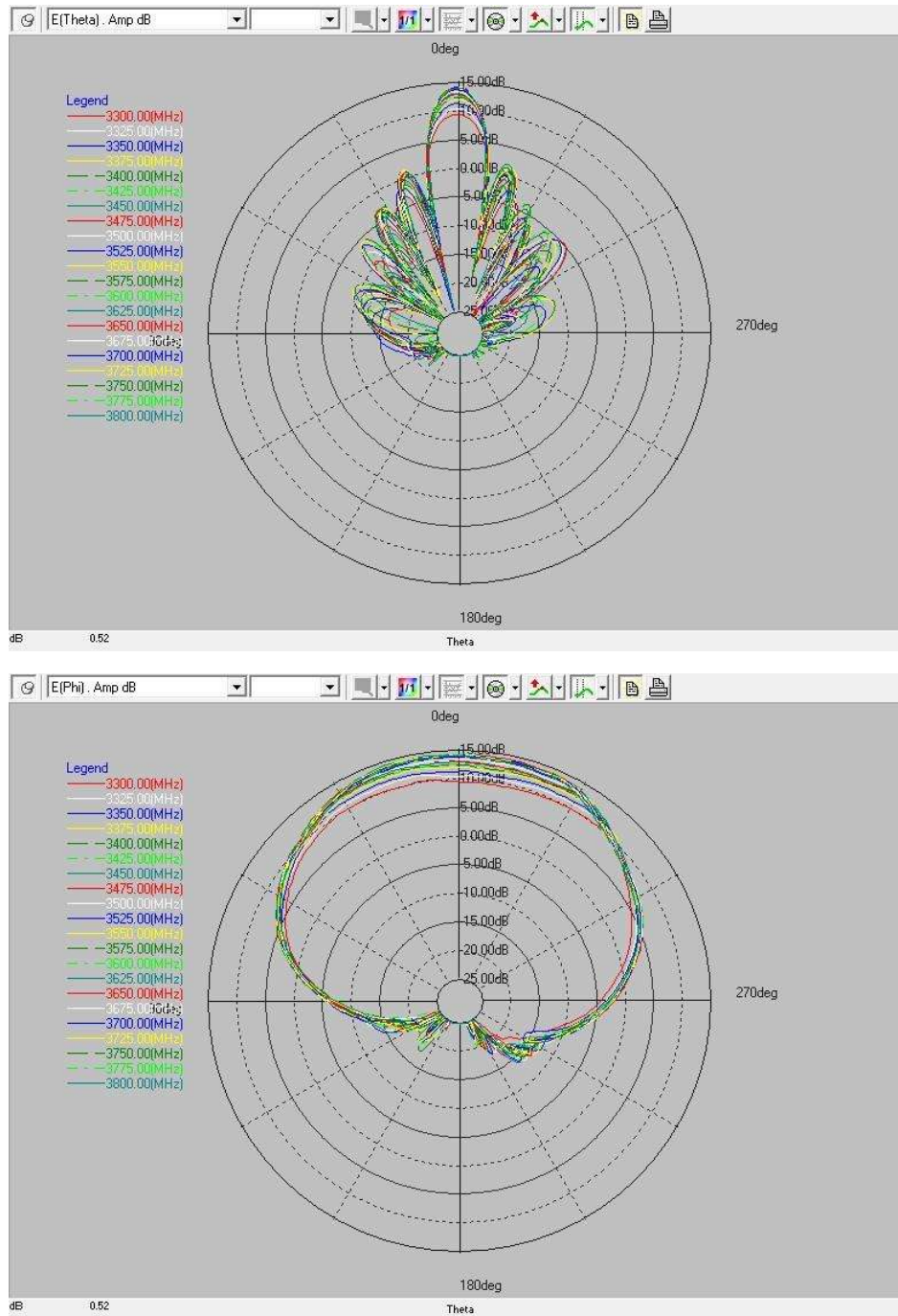
## 6.25. Antenna 12H Elevation and Azimuth Patterns, 3300 MHz to 3800MHz



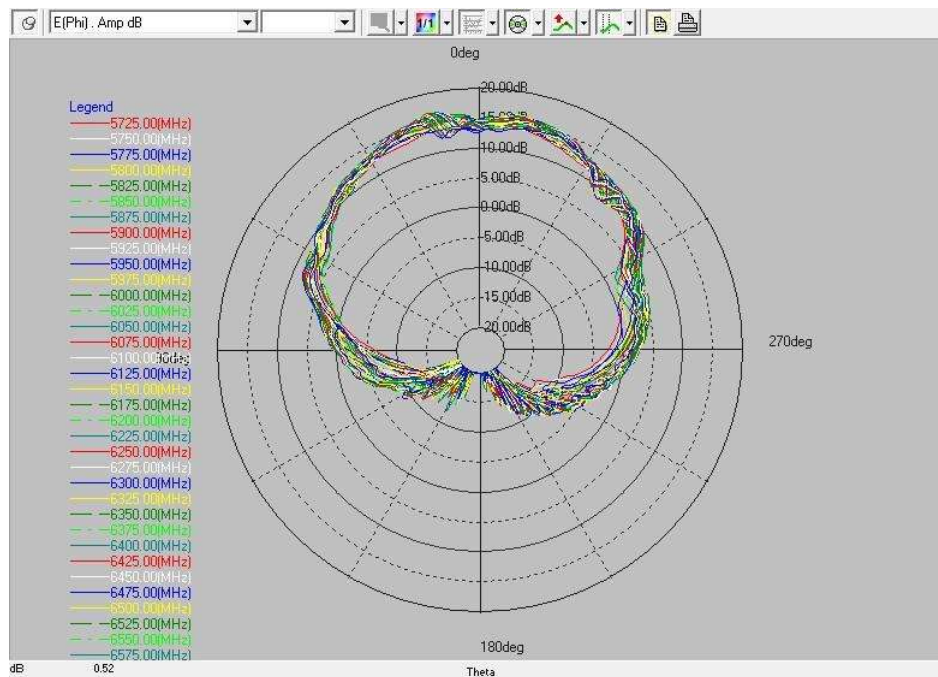
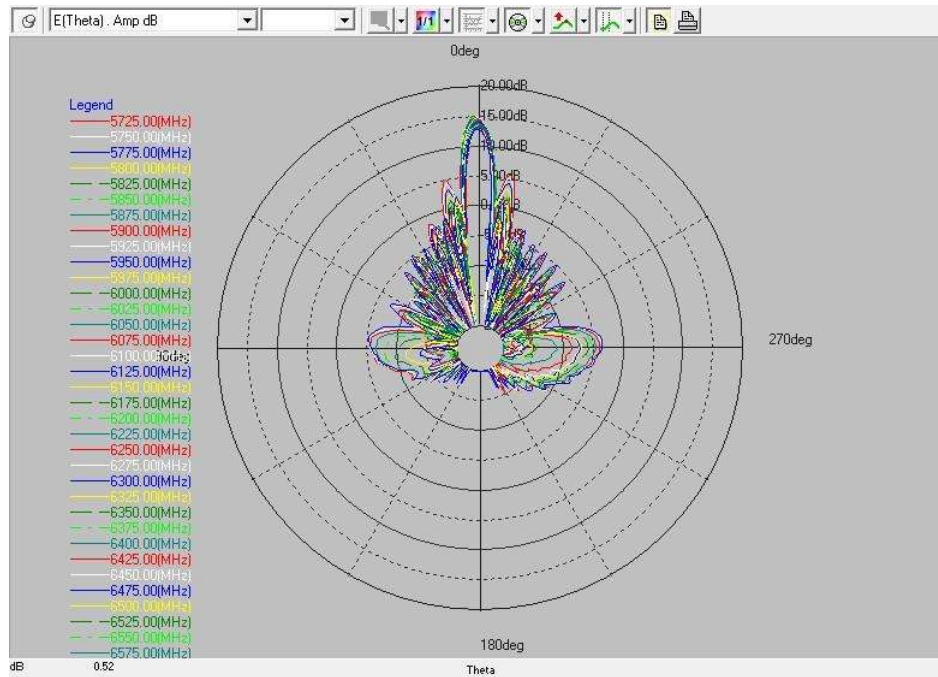
## 6.26. Antenna 12H Elevation and Azimuth Patterns, 5725MHz to 7000MHz



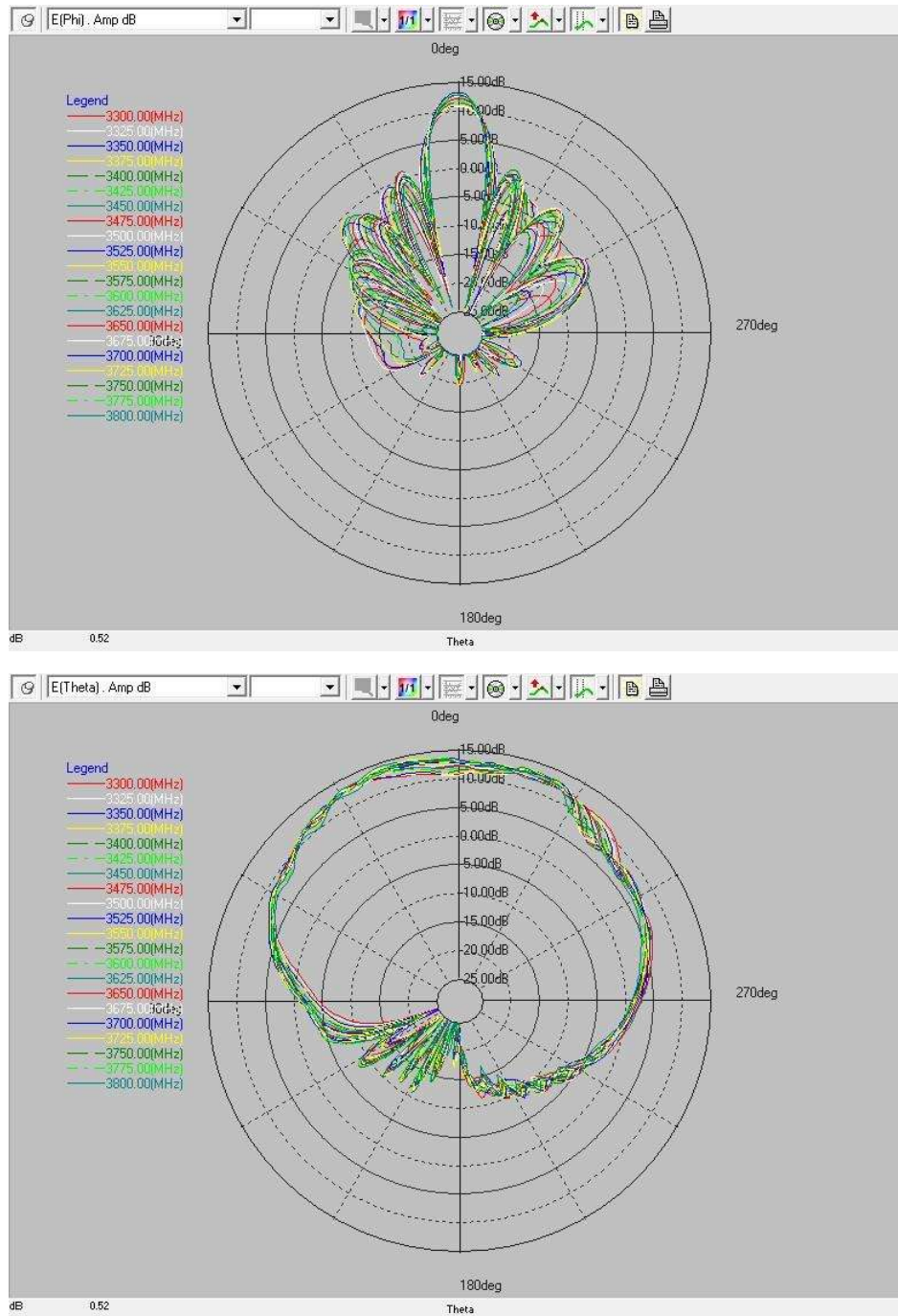
## 6.27. Antenna 13V Elevation and Azimuth Patterns, 3300 MHz to 3800MHz



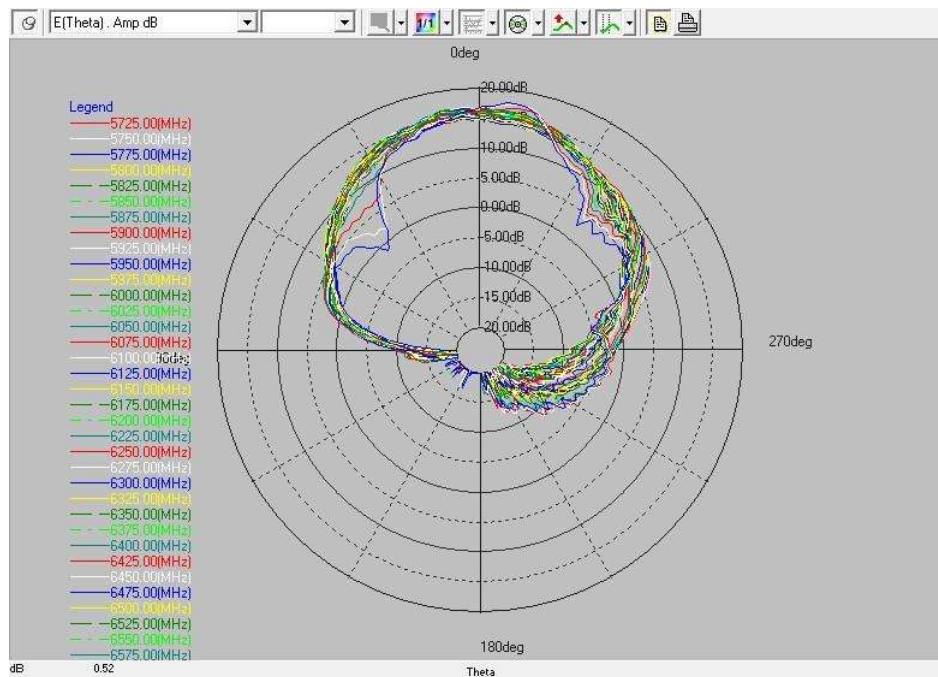
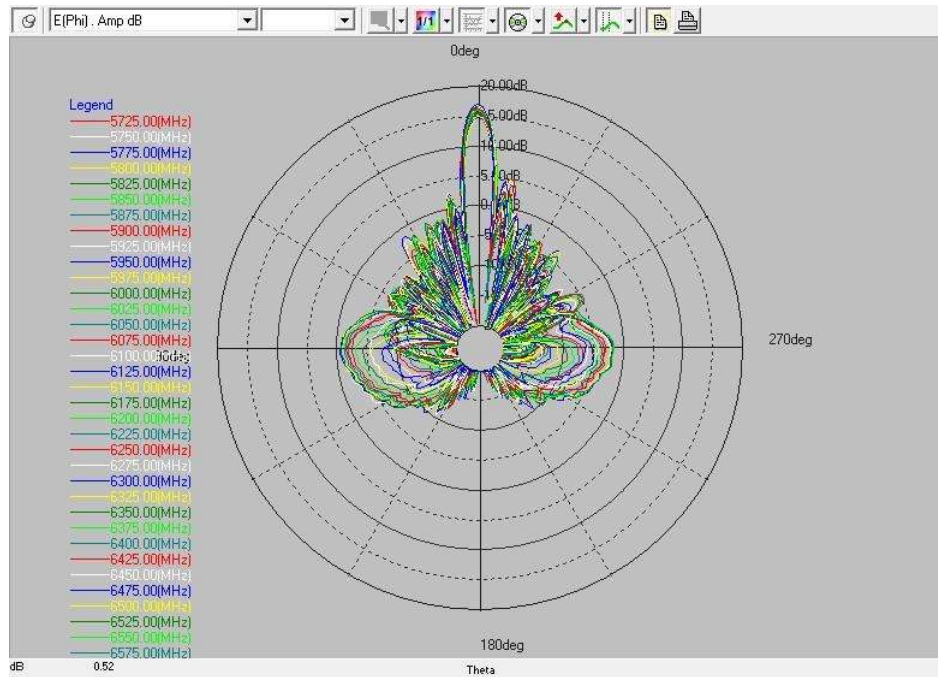
## 6.28. Antenna 13V Elevation and Azimuth Patterns, 5725MHz to 7000MHz



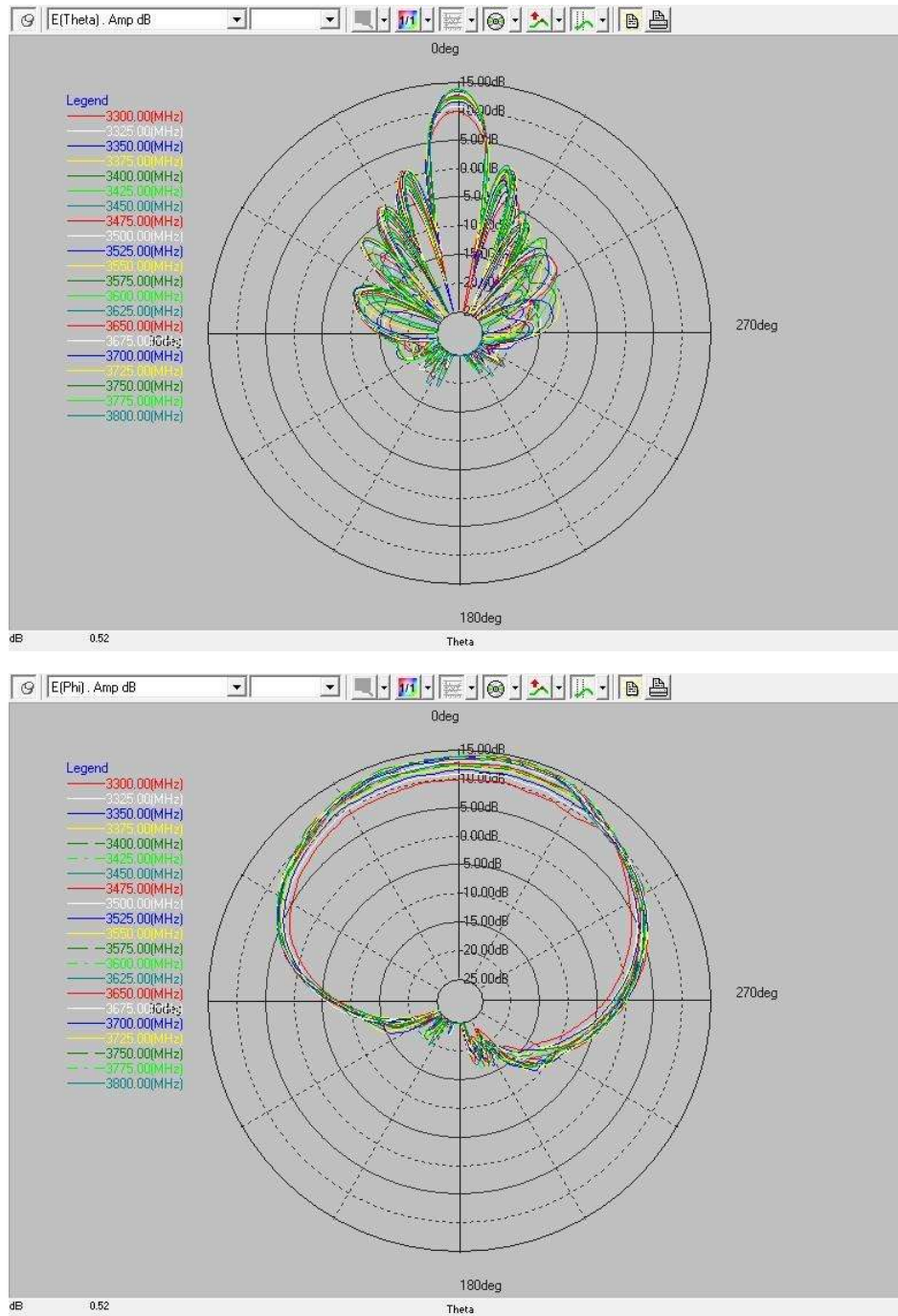
## 6.29. Antenna 14H Elevation and Azimuth Patterns, 3300 MHz to 3800MHz



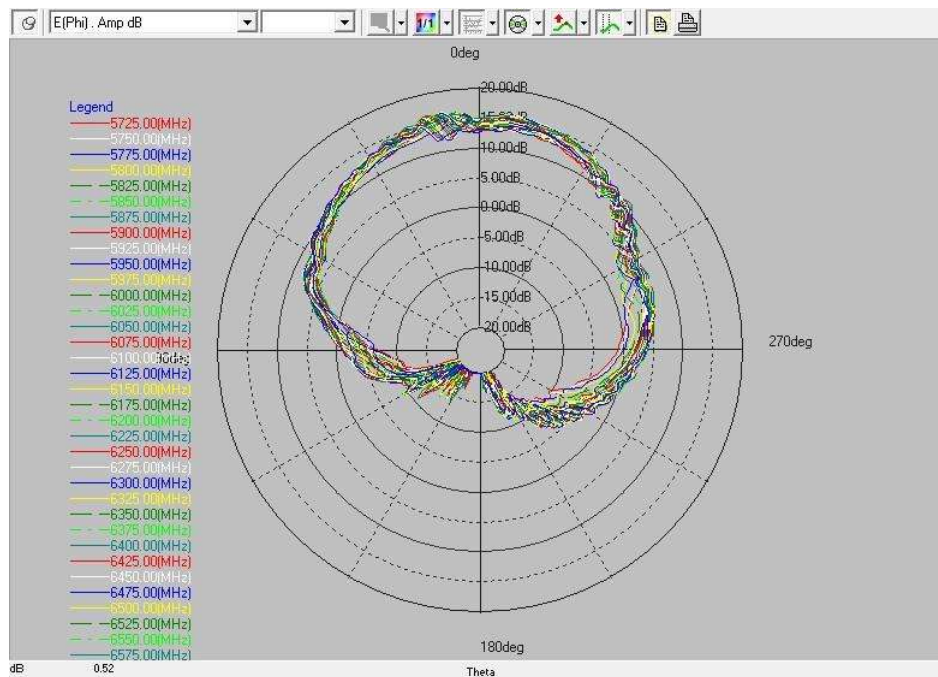
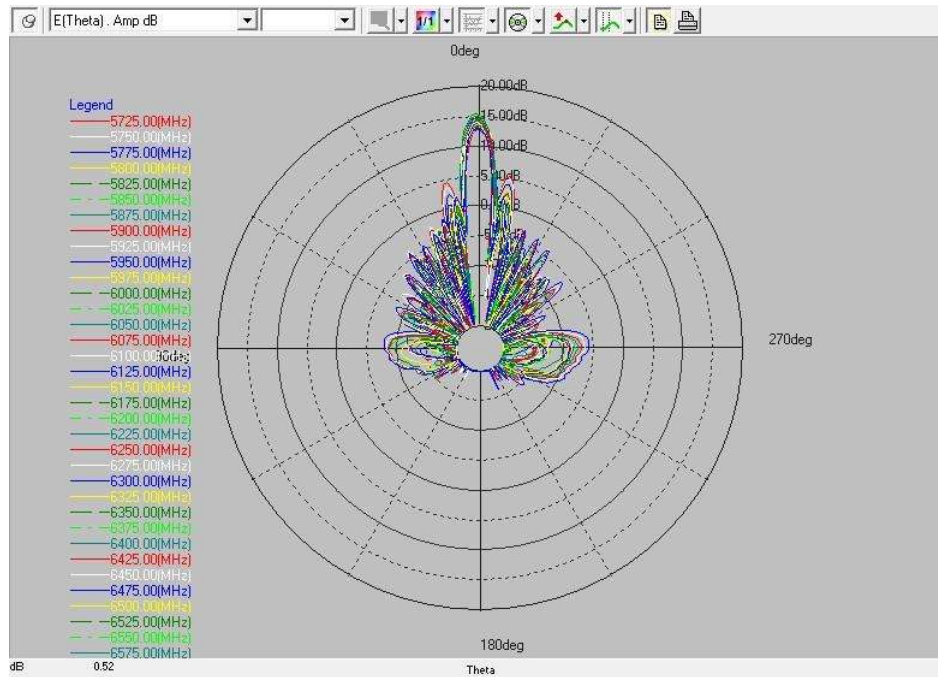
### 6.30. Antenna 14H Elevation and Azimuth Patterns, 5725MHz to 7000MHz



### 6.31. Antenna 15V Elevation and Azimuth Patterns, 3300 MHz to 3800MHz



### 6.32. Antenna 15V Elevation and Azimuth Patterns, 5725MHz to 7000MHz



## 7. Summary

### 7.1. Antenna Max Gain Summary

| Frequency Range (MHz) | Max Antenna Gain (dBi) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |
|-----------------------|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
|                       | 0H                     | 1V    | 2H    | 3V    | 4H    | 5V    | 6H    | 7V    | 8H    | 9V    | 10H   | 11V   | 12H   | 13V   | 14H   | 15V   | Max Gain |
| 3550-3700             | 13.20                  | 14.22 | 13.37 | 13.99 | 14.01 | 13.87 | 14.03 | 13.95 | 14.20 | 13.91 | 14.07 | 14.01 | 13.85 | 14.14 | 14.20 | 14.29 | 14.29    |
| 5725-5850             | 15.71                  | 15.21 | 15.64 | 15.33 | 15.96 | 15.32 | 16.18 | 15.23 | 16.27 | 15.27 | 16.07 | 15.02 | 15.69 | 15.31 | 15.90 | 15.53 | 16.27    |
| 5850-5895             | 15.98                  | 15.52 | 15.91 | 15.44 | 16.38 | 15.66 | 16.53 | 16.10 | 16.64 | 16.01 | 16.41 | 15.72 | 15.93 | 15.60 | 15.92 | 15.89 | 16.64    |
| 5925-6425             | 16.84                  | 15.65 | 16.66 | 15.60 | 16.83 | 15.99 | 16.78 | 16.11 | 16.75 | 15.86 | 16.66 | 16.21 | 16.83 | 15.99 | 16.61 | 16.06 | 16.84    |
| 6425-6525             | 16.88                  | 16.03 | 16.71 | 16.40 | 16.88 | 16.38 | 16.84 | 16.12 | 16.75 | 15.98 | 16.65 | 16.42 | 16.88 | 16.22 | 16.68 | 16.24 | 16.88    |
| 6525-6875             | 16.75                  | 16.19 | 16.40 | 16.49 | 16.66 | 16.38 | 16.65 | 16.31 | 16.58 | 16.01 | 16.51 | 16.25 | 16.51 | 16.52 | 16.61 | 16.19 | 16.75    |

### 7.2. Antenna Elevation Gain Above +30°

| Frequency Range (MHz) | +30° to +90° Antenna Gain (dBi) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |
|-----------------------|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
|                       | 0H                              | 1V    | 2H    | 3V    | 4H    | 5V    | 6H    | 7V    | 8H    | 9V    | 10H   | 11V   | 12H   | 13V   | 14H   | 15V   | Max Gain |
| 5725-5850             | -5.04                           | -4.23 | -5.97 | -3.59 | -4.87 | -2.07 | -4.57 | -4.20 | -4.53 | -4.09 | -4.44 | -4.24 | -4.54 | -5.00 | -5.75 | -5.46 | -2.07    |
| 5850-5895             | -5.70                           | -4.30 | -6.68 | -3.31 | -5.59 | -1.42 | -4.92 | -2.63 | -5.27 | -2.99 | -4.96 | -3.91 | -5.34 | -4.86 | -6.42 | -7.44 | -1.42    |
| 5925-6425             | -1.74                           | -2.22 | -1.43 | -3.75 | -0.83 | -1.40 | -1.01 | -1.45 | -0.52 | -1.58 | -1.10 | -2.59 | -1.06 | -5.33 | -1.49 | -5.79 | -0.52    |
| 6425-6525             | -5.05                           | -5.44 | -4.48 | -5.26 | -5.52 | -3.47 | -5.34 | -2.97 | -5.35 | -3.01 | -5.68 | -6.32 | -4.90 | -7.48 | -6.03 | -6.75 | -2.97    |
| 6525-6875             | 0.07                            | -3.16 | -0.43 | -4.81 | -0.30 | -4.21 | -0.05 | -2.97 | 0.20  | -3.09 | 0.12  | -4.57 | -0.02 | -5.07 | -0.62 | -3.77 | 0.20     |

**Note:** Compare with the Peak Max Gain, the above +30° elevation gains are all below more than 15dB.

### 7.3. Antenna Elevation Gain Below -30°

| Frequency Range (MHz) | -30° to -90° Antenna Gain (dBi) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |        |          |
|-----------------------|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|----------|
|                       | 0H                              | 1V    | 2H    | 3V    | 4H    | 5V    | 6H    | 7V    | 8H    | 9V    | 10H   | 11V   | 12H   | 13V   | 14H   | 15V    | Max Gain |
| 5725-5850             | -5.83                           | -6.86 | -6.30 | -7.44 | -5.20 | -5.70 | -5.15 | -5.79 | -5.68 | -5.49 | -5.35 | -6.07 | -4.51 | -6.84 | -5.15 | -7.79  | -4.51    |
| 5850-5895             | -5.66                           | -6.54 | -6.25 | -7.51 | -4.67 | -5.69 | -5.06 | -9.18 | -5.63 | -8.22 | -4.79 | -6.66 | -4.92 | -8.18 | -6.07 | -8.45  | -4.67    |
| 5925-6425             | -2.74                           | -7.01 | -3.85 | -6.80 | -2.74 | -5.70 | -2.13 | -7.27 | -2.64 | -7.59 | -2.59 | -7.64 | -2.95 | -9.56 | -3.08 | -8.12  | -2.13    |
| 6425-6525             | -5.64                           | -7.41 | -6.51 | -6.96 | -6.18 | -6.13 | -5.06 | -7.51 | -4.95 | -6.41 | -5.96 | -9.30 | -5.73 | -9.63 | -7.70 | -11.20 | -4.95    |
| 6525-6875             | -0.93                           | -6.52 | -0.39 | -5.21 | 0.45  | -6.00 | 0.67  | -6.39 | 1.31  | -6.01 | 0.91  | -6.24 | 0.11  | -5.82 | -1.73 | -6.03  | 1.31     |

**Note:** Compare with the Peak Max Gain, the below -30° elevation gains are all below more than 15dB.