# Dipole Impedance Measurement

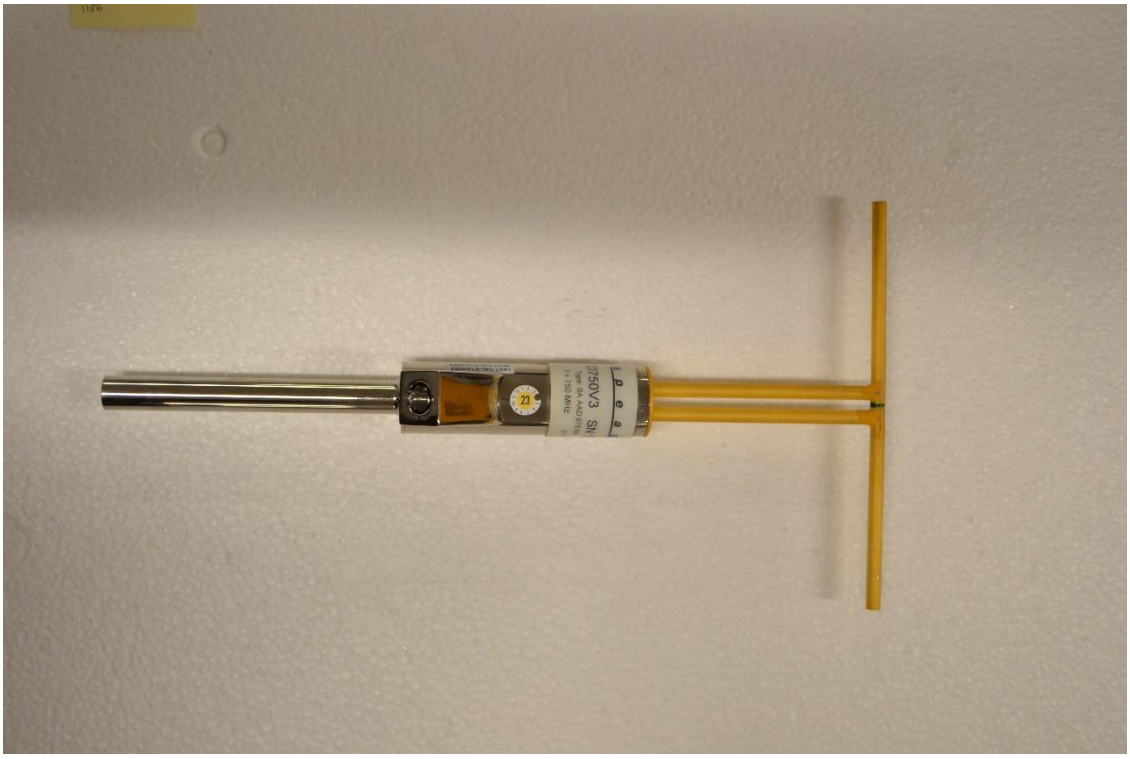
| Equipment Location | Equipment Name | Model Name | Date of Verification |
|---|---|---|---|
| UL Verification Services Inc.<br>47173 Benicia Street<br>Fremont, CA 94538, U.S.A. | Dipole Antenna | D750V3-1019 | April 13, 2023 |

| Number: | Check List: | Result: |
|---|---|---|
| 1 | Visual Inspection | Pass |
| 2 | Return/Loss and Impedance | Pass |
| 3 | Dipole Arms | Pass |

| Equipment List: | |
|---|---|
| Equipment Name: | Calibration Date: |
| R&S ZNLE6 Vector Network Analyzer | 03/05/2024 |
| ZV-Z135 Calibration Kit | 03/27/2024 |

# Dipole Impedance Measurement

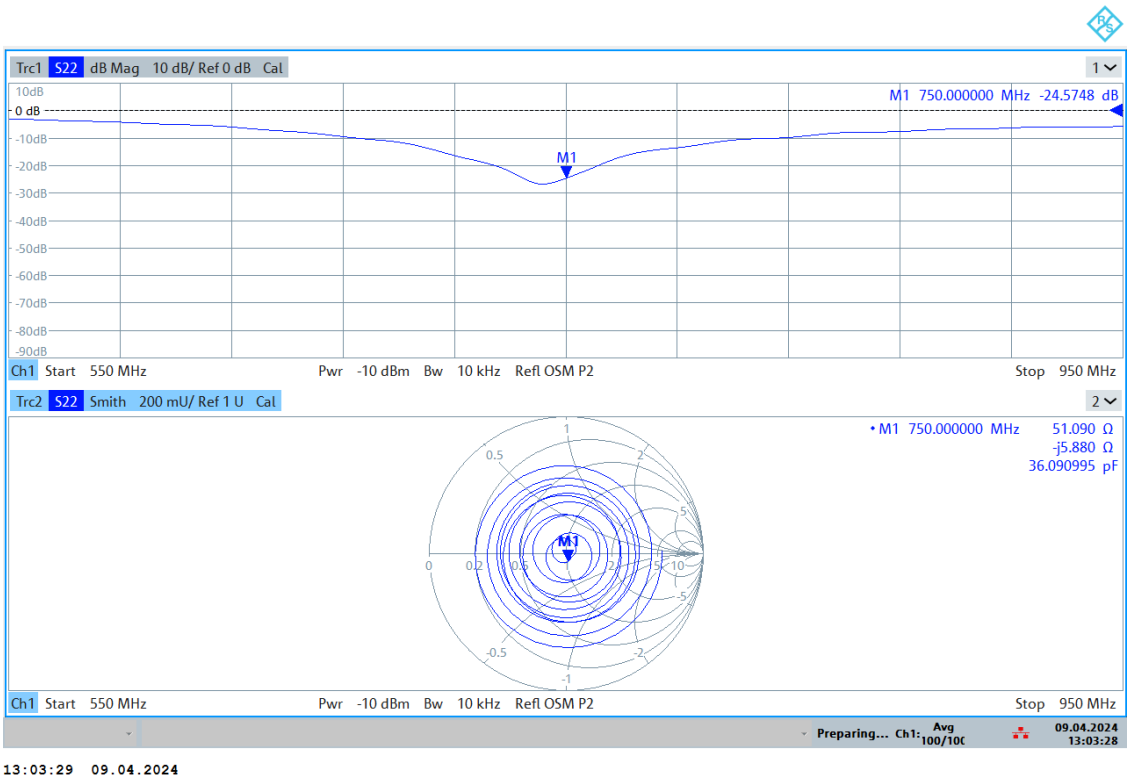
1) Photo of Dipole



- The connector of dipole contains no abnormalities.

# Dipole Impedance Measurement

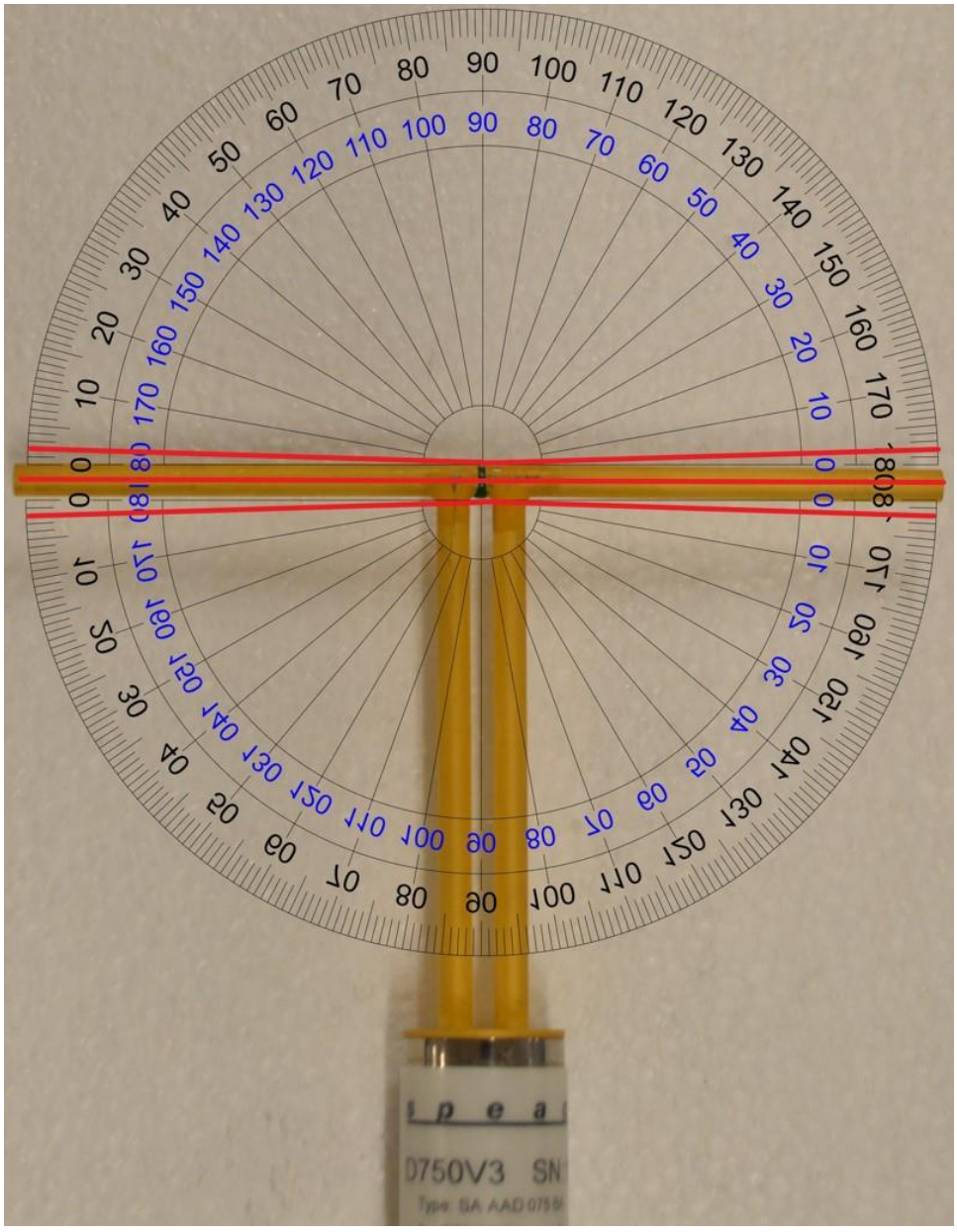
## 2) Impedance and Return/Loss




- Return/Loss is greater than the -20 dB cutoff and Impedance is within 5 Ω of previous value.

# Dipole Impedance Measurement

3) Dipole Arms




- The center red line indicates that the arms of the dipole fall within $\pm 2°$

# Dipole Impedance Measurement

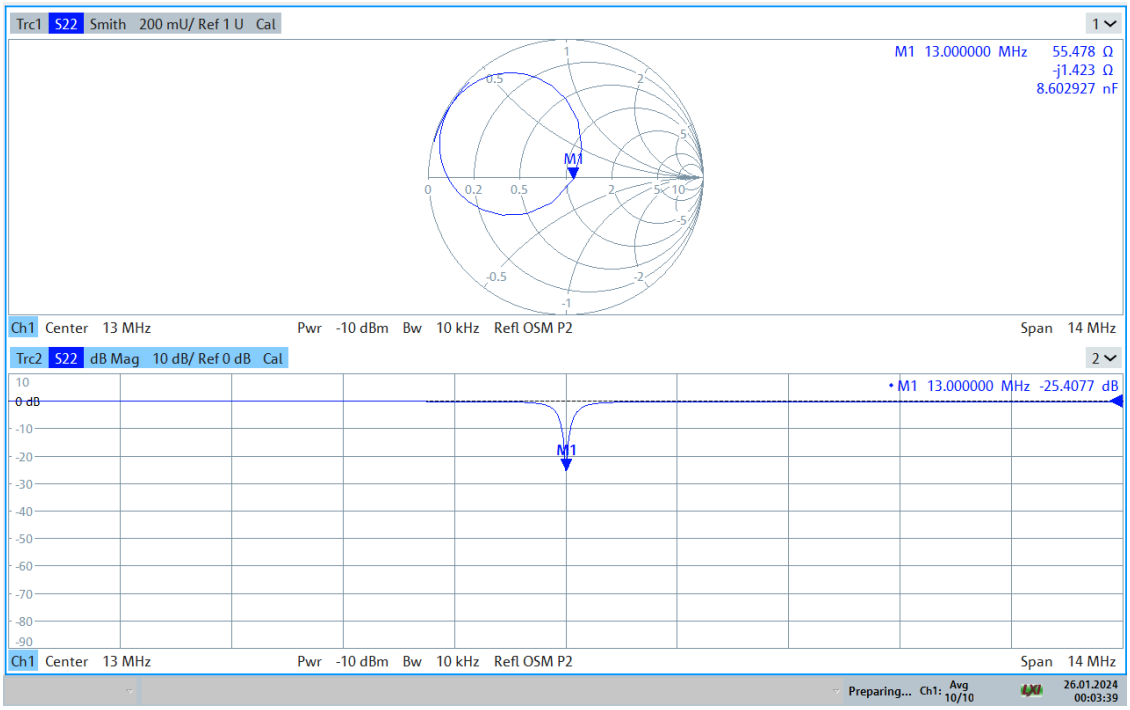
| Equipment Location | Equipment Name | Model Name | Date of Verification |
|---|---|---|---|
| UL Verification Services Inc.<br>47173 Benicia Street<br>Fremont, CA 94538, U.S.A. | Dipole Antenna | CLA13-1008 | January 12, 2023 |

| Number: | Check List: | Result: |
|---|---|---|
| 1 | Visual Inspection | Pass |
| 2 | Return/Loss and Impedance | Pass |
| 3 | Dipole Arms | Pass |

| Equipment List: | |
|---|---|
| Equipment Name: | Calibration Date: |
| R&S ZNLE6 Vector Network Analyzer | 03/05/2024 |
| ZV-Z135 Calibration Kit | 03/27/2024 |

# Dipole Impedance Measurement

4) Impedance and Return/Loss




- Return/Loss is greater than the -20 dB cutoff and Impedance is within 5 Ω of previous value.

# Dipole Impedance Measurement

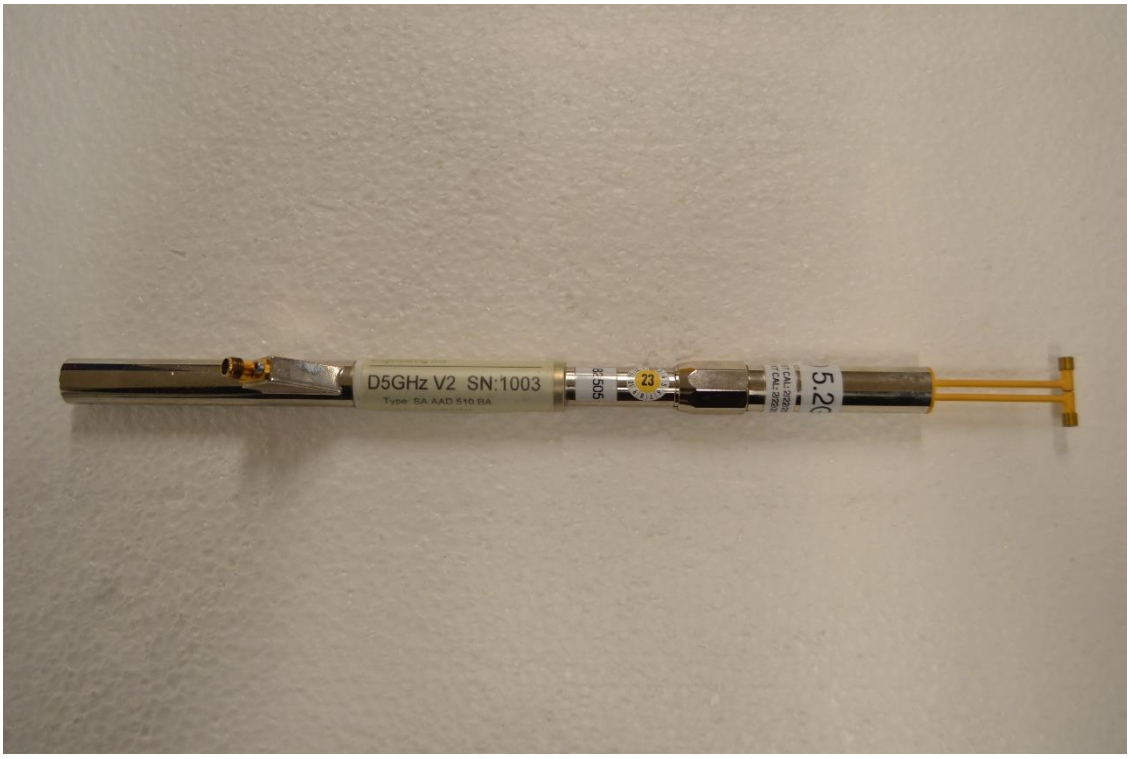
| Equipment Location | Equipment Name | Model Name | Date of Verification |
|---|---|---|---|
| UL Verification Services Inc.<br>47173 Benicia Street<br>Fremont, CA 94538, U.S.A. | Dipole Antenna | D5GHzV2-1003 | February 22, 2023 |

| Number: | Check List: | Result: |
|---|---|---|
| 1 | Visual Inspection | Pass |
| 2 | Return/Loss and Impedance | Pass |
| 3 | Dipole Arms | Pass |

| Equipment List: | |
|---|---|
| Equipment Name: | Calibration Date: |
| R&S ZNLE6 Vector Network Analyzer | 03/05/2024 |
| ZV-Z135 Calibration Kit | 03/27/2024 |

# Dipole Impedance Measurement

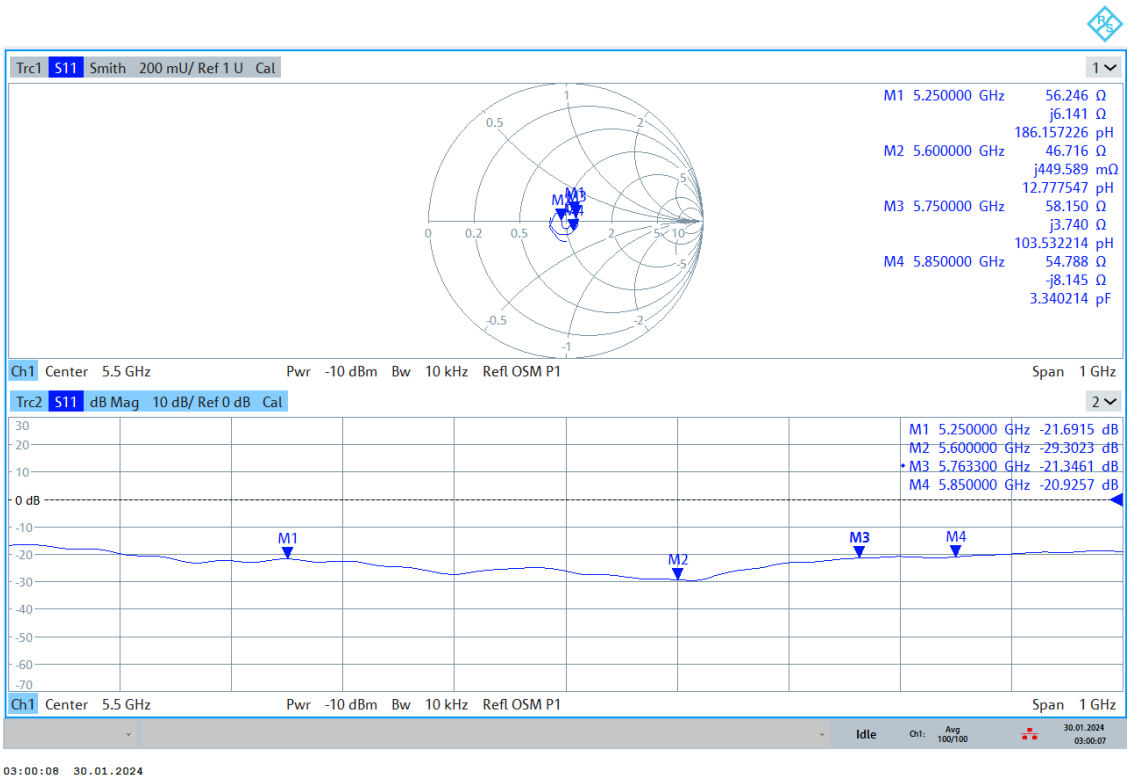
5) Photo of Dipole




- The connector of dipole contains no abnormalities.

# Dipole Impedance Measurement

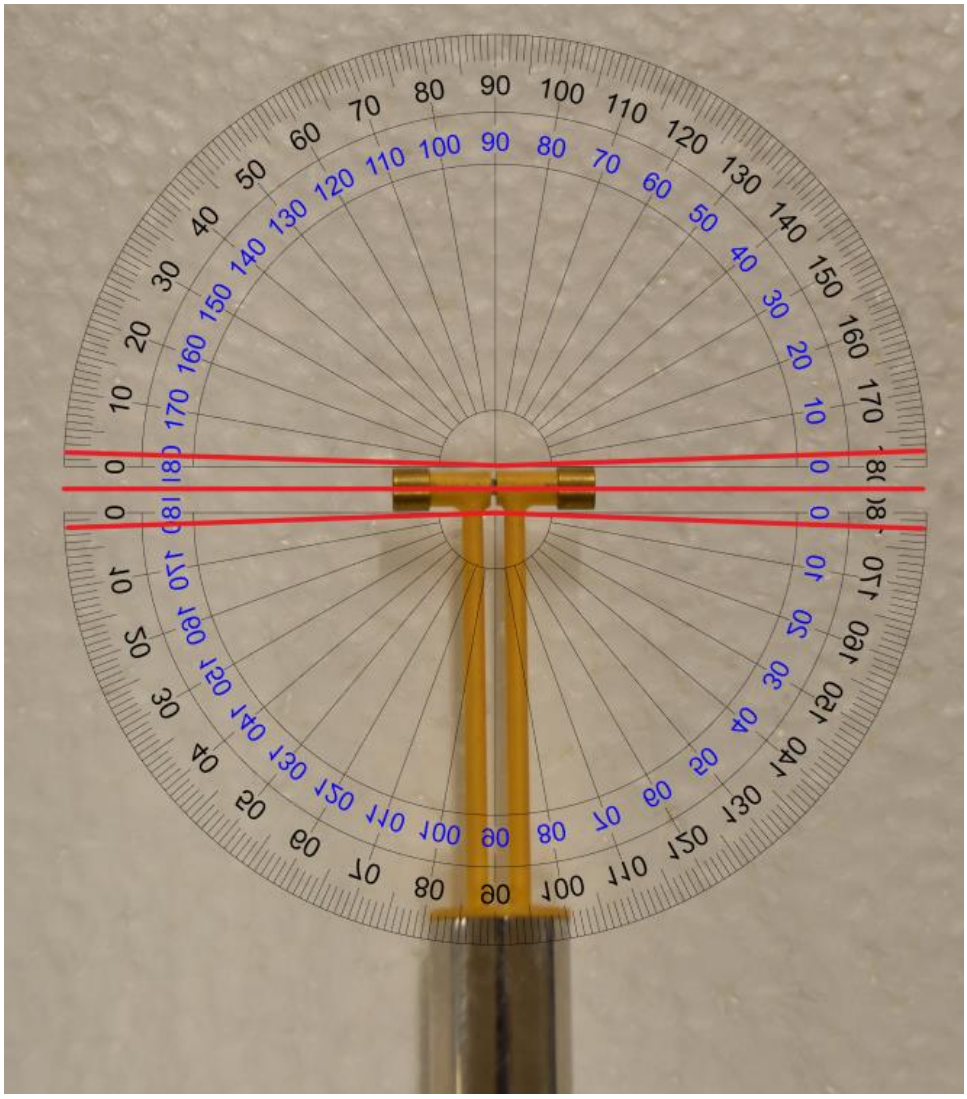
6) Impedance and Return/Loss




- Return/Loss is greater than the -20 dB cutoff and Impedance is within 5 Ω of previous value.

# Dipole Impedance Measurement

7) Dipole Arms



- The center red line indicates that the arms of the dipole fall within $\pm 2°$

# Dipole Impedance Measurement

| Equipment Location | Equipment Name | Model Name | Date of Verification |
|---|---|---|---|
| UL Verification Services Inc.<br>47173 Benicia Street<br>Fremont, CA 94538, U.S.A. | Dipole Antenna | D6.5GHzV2-1033 | March 15, 2023 |

| Number: | Check List: | Result: |
|---|---|---|
| 1 | Visual Inspection | Pass |
| 2 | Return/Loss and Impedance | Pass |
| 3 | Dipole Arms | Pass |

| Equipment List: | |
|---|---|
| Equipment Name: | Calibration Date: |
| R&S ZNLE6 Vector Network Analyzer | 03/05/2024 |
| ZV-Z135 Calibration Kit | 03/27/2024 |

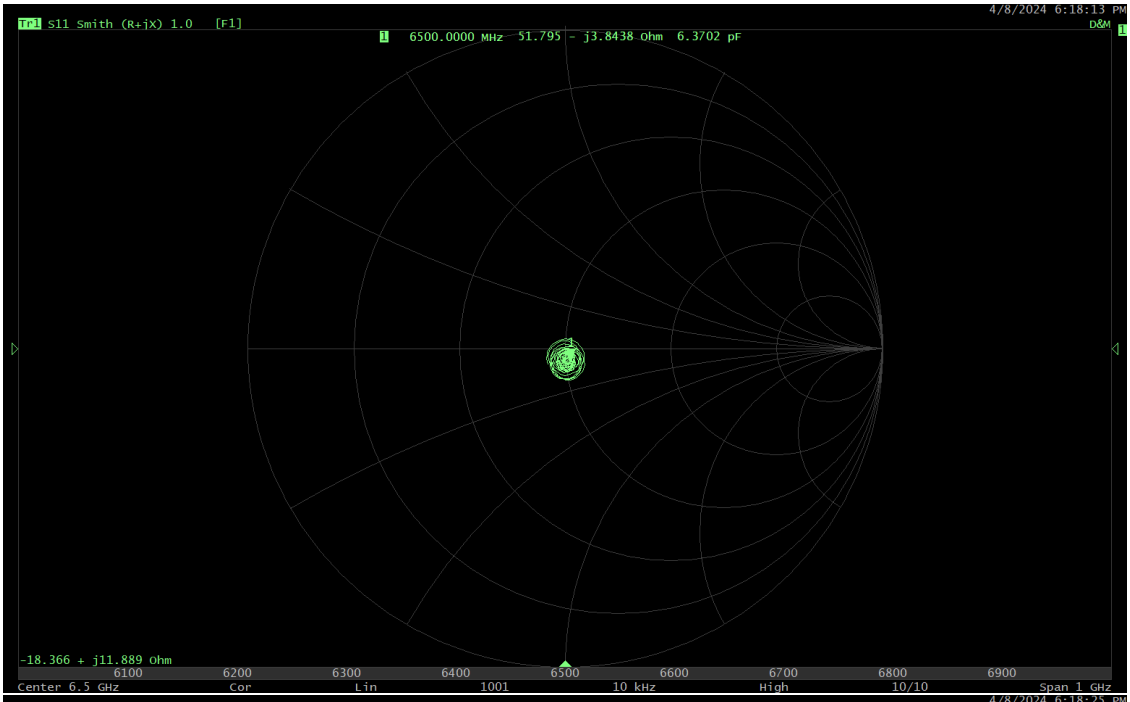
# Dipole Impedance Measurement

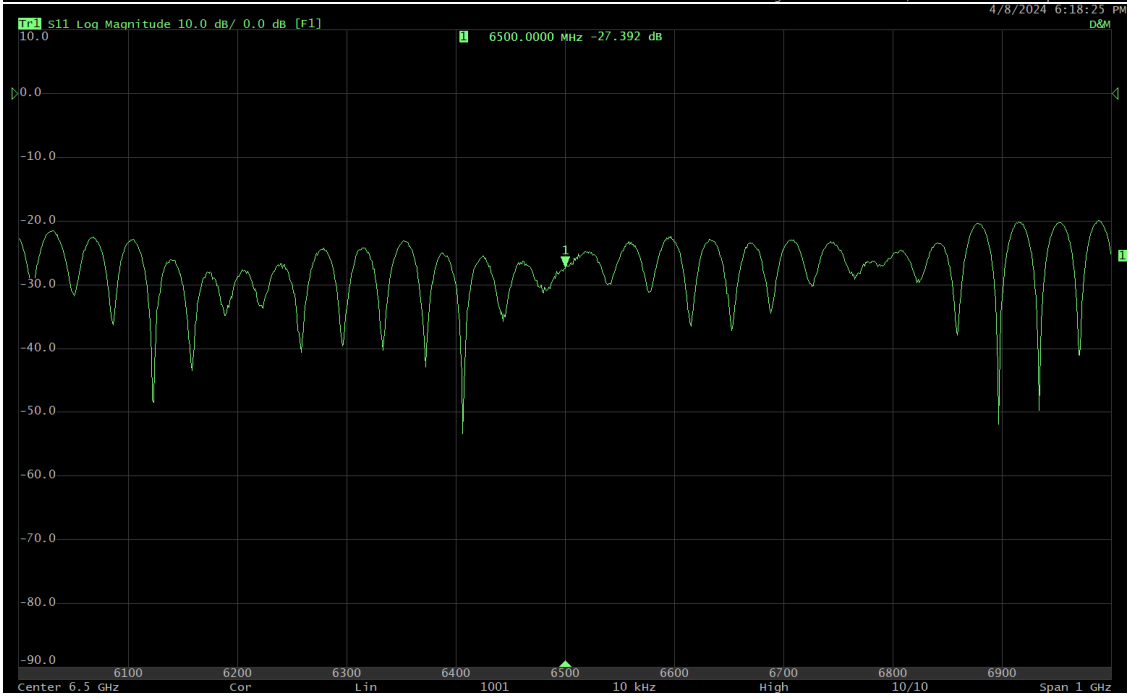
8) Photo of Dipole


- The connector of dipole contains no abnormalities.

# Dipole Impedance Measurement

9) Impedance and Return/Loss

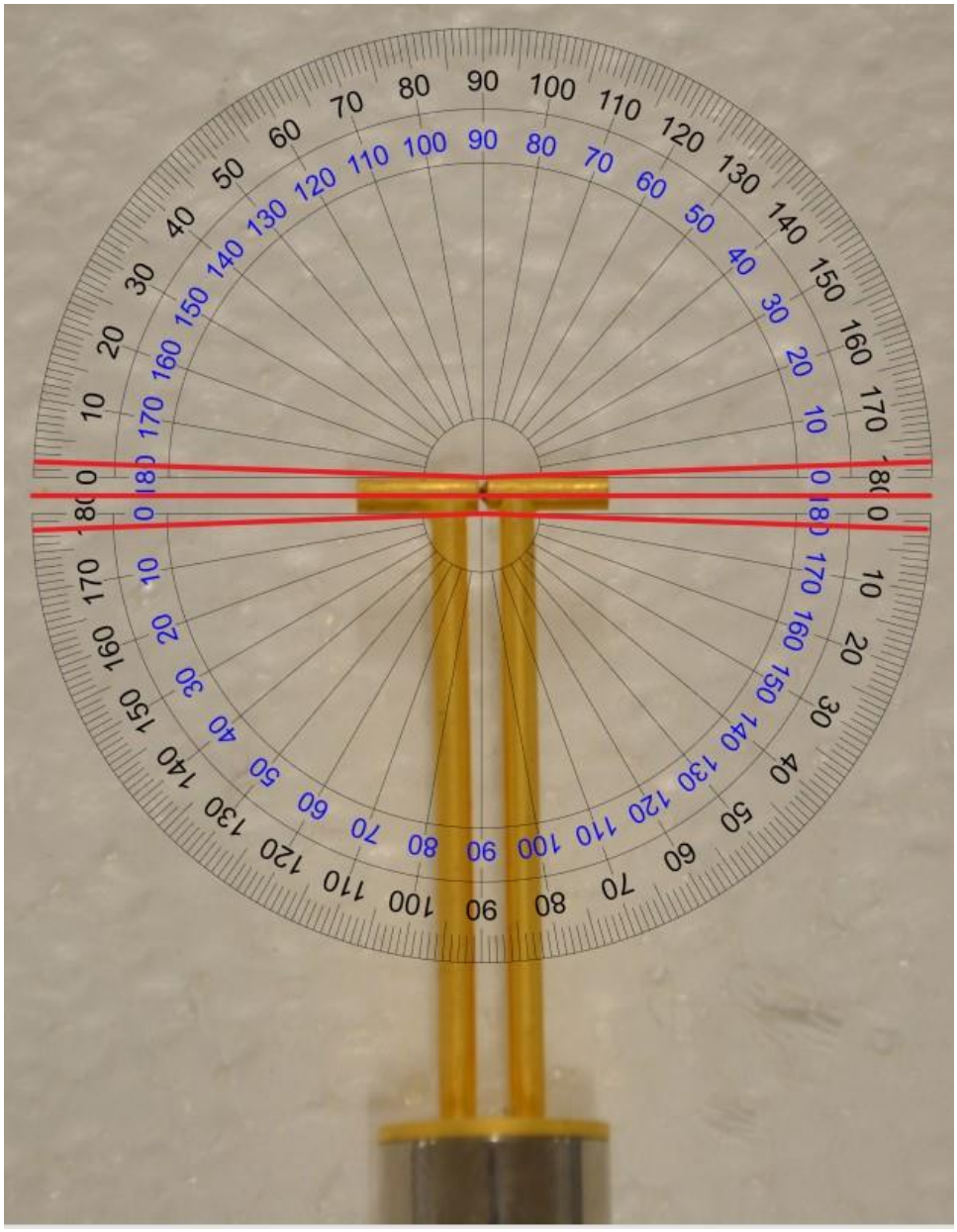



- Return/Loss is greater than the -20 dB cutoff and Impedance is within 5 Ω of previous value.

# Dipole Impedance Measurement

10) Dipole Arms



- The center red line indicates that the arms of the dipole fall within $\pm 2°$

# Dipole Impedance Measurement

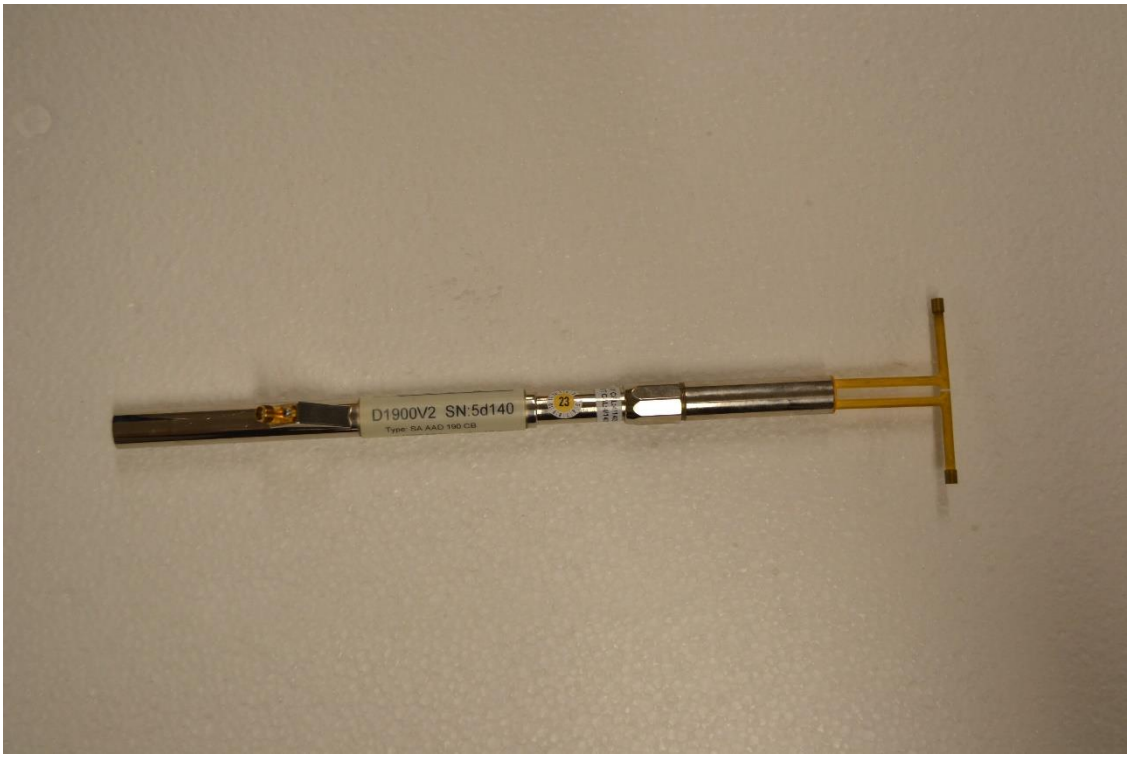
| Equipment Location | Equipment Name | Model Name | Date of Verification |
|---|---|---|---|
| UL Verification Services Inc.<br>47173 Benicia Street<br>Fremont, CA 94538, U.S.A. | Dipole Antenna | D1900V2-5d140 | April 14, 2023 |

| Number: | Check List: | Result: |
|---|---|---|
| 1 | Visual Inspection | Pass |
| 2 | Return/Loss and Impedance | Pass |
| 3 | Dipole Arms | Pass |

| Equipment List: | |
|---|---|
| Equipment Name: | Calibration Date: |
| R&S ZNLE6 Vector Network Analyzer | 03/05/2024 |
| ZV-Z135 Calibration Kit | 03/27/2024 |

# Dipole Impedance Measurement

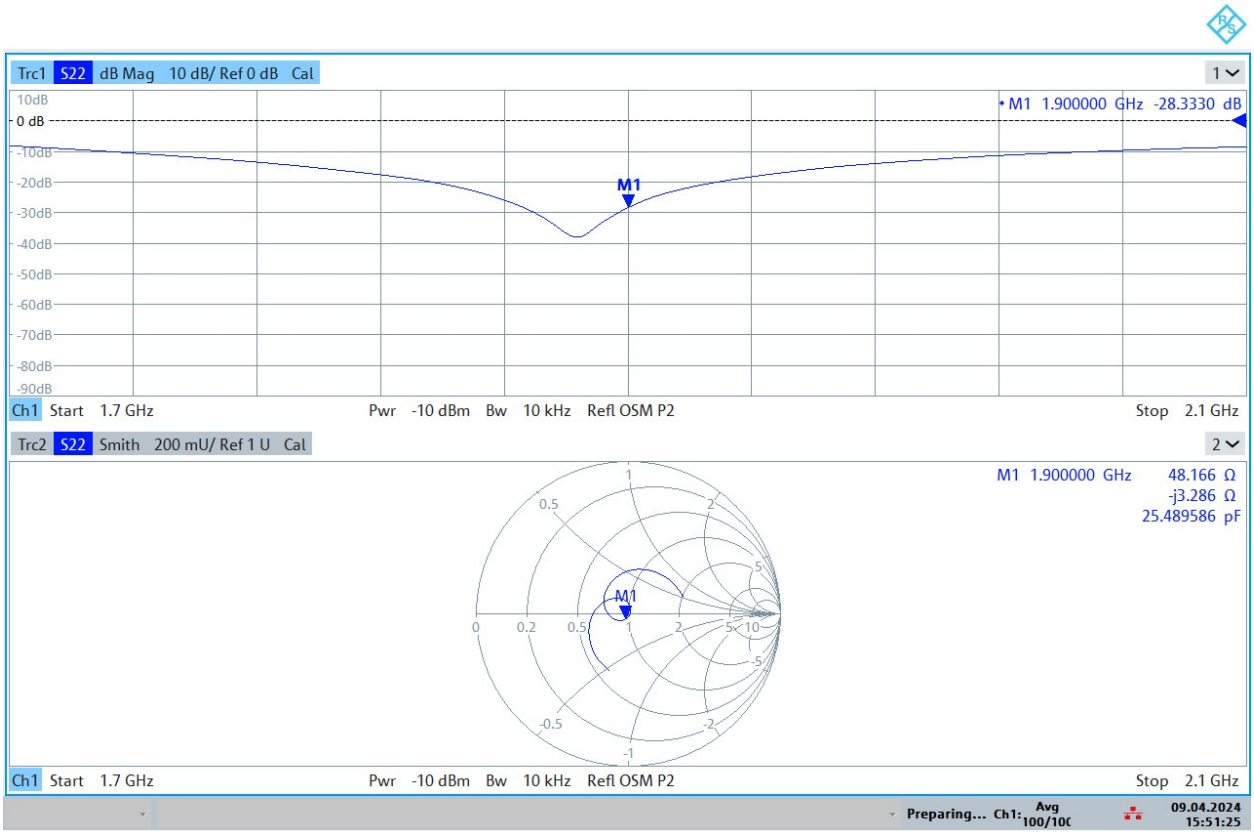
11) Photo of Dipole




- The connector of dipole contains no abnormalities.

# Dipole Impedance Measurement

12) Impedance and Return/Loss

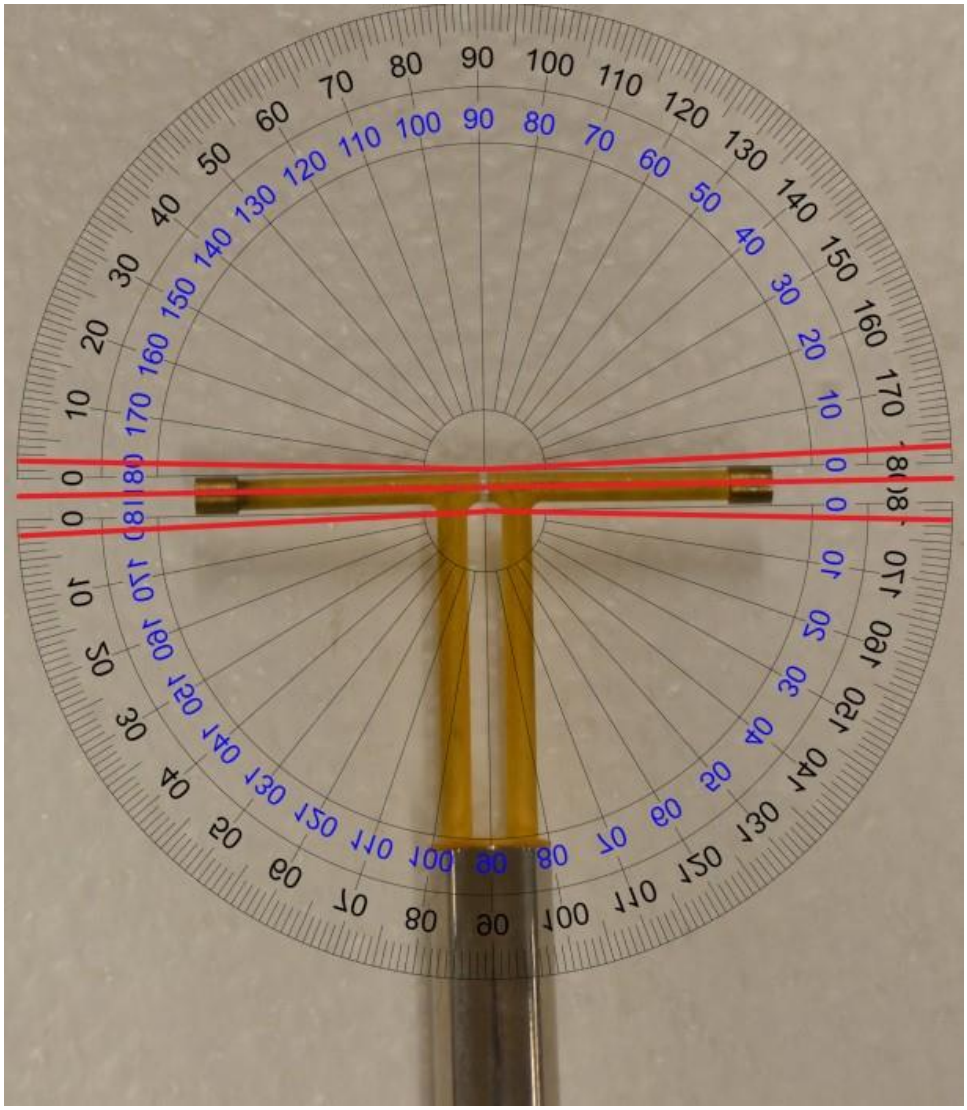



15:51:26 09.04.2024

- Return/Loss is greater than the -20 dB cutoff and Impedance is within 5 Ω of previous value.

# Dipole Impedance Measurement

13) Dipole Arms



- The center red line indicates that the arms of the dipole fall within $\pm 2°$

# Dipole Impedance Measurement

| Equipment Location | Equipment Name | Model Name | Date of Verification |
|---|---|---|---|
| UL Verification Services Inc.<br>47173 Benicia Street<br>Fremont, CA 94538, U.S.A. | Dipole Antenna | D1950V2-1136 | April 14, 2023 |

| Number: | Check List: | Result: |
|---|---|---|
| 1 | Visual Inspection | Pass |
| 2 | Return/Loss and Impedance | Pass |
| 3 | Dipole Arms | Pass |

| Equipment List: | |
|---|---|
| Equipment Name: | Calibration Date: |
| R&S ZNLE6 Vector Network Analyzer | 03/05/2024 |
| ZV-Z135 Calibration Kit | 03/27/2024 |

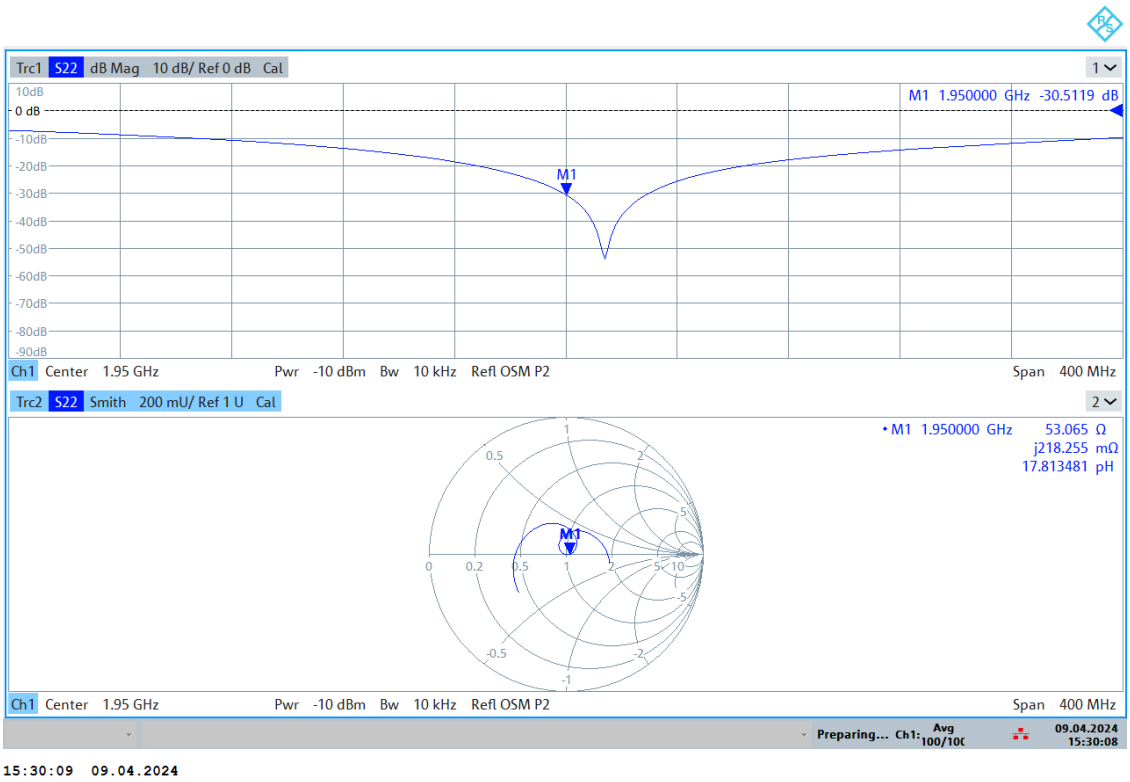
# Dipole Impedance Measurement

14) Photo of Dipole


- The connector of dipole contains no abnormalities.

# Dipole Impedance Measurement

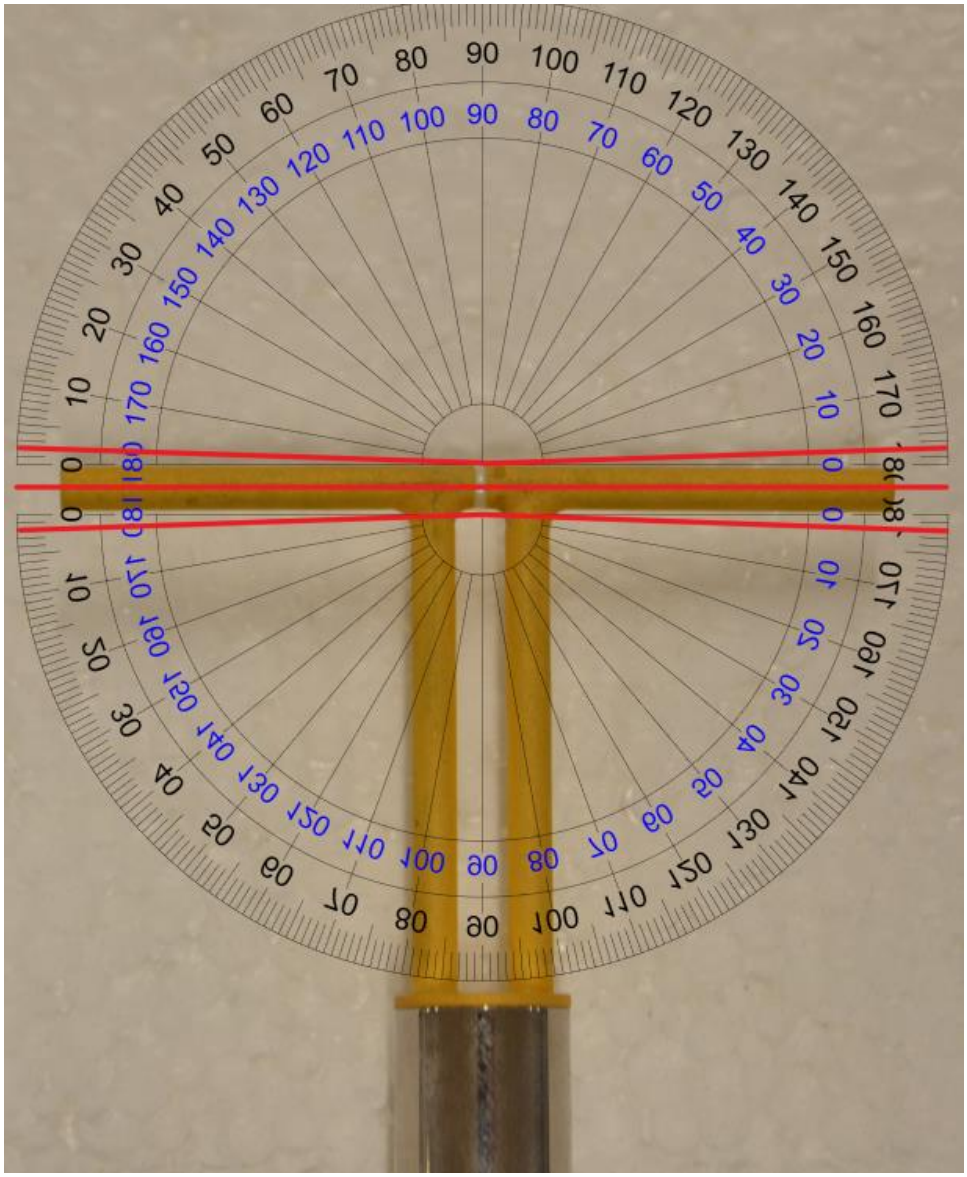
15) Impedance and Return/Loss




- Return/Loss is greater than the -20 dB cutoff and Impedance is within 5 Ω of previous value.

# Dipole Impedance Measurement

16) Dipole Arms



- The center red line indicates that the arms of the dipole fall within $\pm 2°$

# Dipole Impedance Measurement

| Equipment Location | Equipment Name | Model Name | Date of Verification |
|---|---|---|---|
| UL Verification Services Inc.<br>47173 Benicia Street<br>Fremont, CA 94538, U.S.A. | Dipole Antenna | D2450V2-748 | February 08, 2023 |

| Number: | Check List: | Result: |
|---|---|---|
| 1 | Visual Inspection | Pass |
| 2 | Return/Loss and Impedance | Pass |
| 3 | Dipole Arms | Pass |

| Equipment List: | |
|---|---|
| Equipment Name: | Calibration Date: |
| R&S ZNLE6 Vector Network Analyzer | 03/05/2024 |
| ZV-Z135 Calibration Kit | 03/27/2024 |

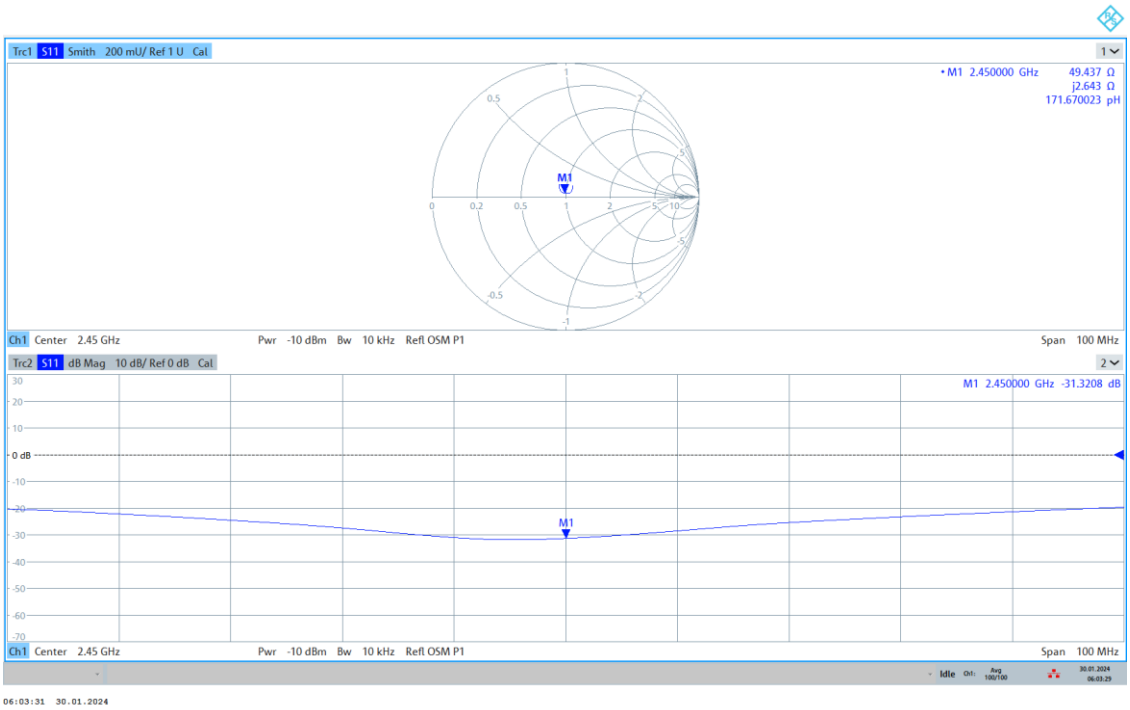
# Dipole Impedance Measurement

17) Photo of Dipole


- The connector of dipole contains no abnormalities.

# Dipole Impedance Measurement

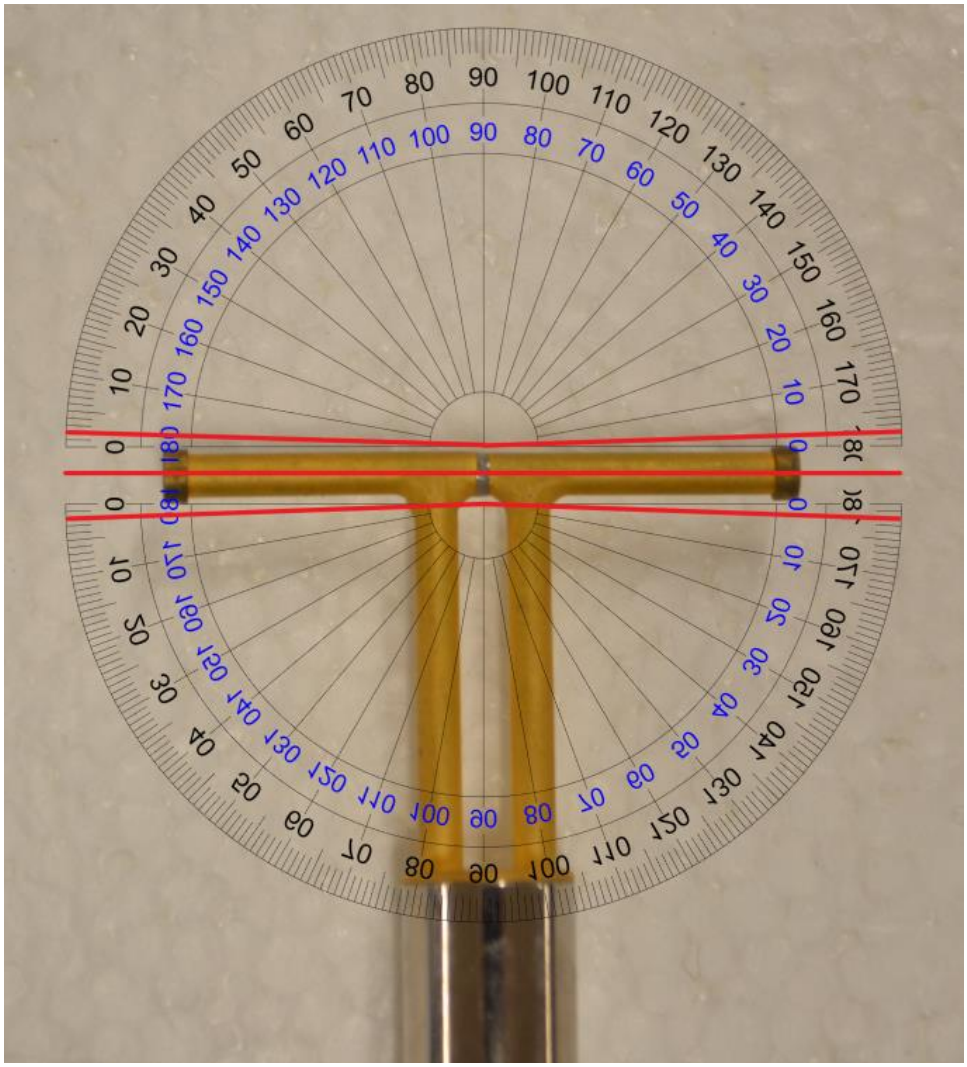
18) Impedance and Return/Loss




- Return/Loss is greater than the -20 dB cutoff and Impedance is within 5 Ω of previous value.

# Dipole Impedance Measurement

19) Dipole Arms



- The center red line indicates that the arms of the dipole fall within $\pm 2°$

# Dipole Impedance Measurement

| Equipment Location | Equipment Name | Model Name | Date of Verification |
|---|---|---|---|
| UL Verification Services Inc.<br>47173 Benicia Street<br>Fremont, CA 94538, U.S.A. | Dipole Antenna | D3500V2-1060 | February 07, 2023 |

| Number: | Check List: | Result: |
|---|---|---|
| 1 | Visual Inspection | Pass |
| 2 | Return/Loss and Impedance | Pass |
| 3 | Dipole Arms | Pass |

| Equipment List: | |
|---|---|
| Equipment Name: | Calibration Date: |
| R&S ZNLE6 Vector Network Analyzer | 03/05/2024 |
| ZV-Z135 Calibration Kit | 03/27/2024 |

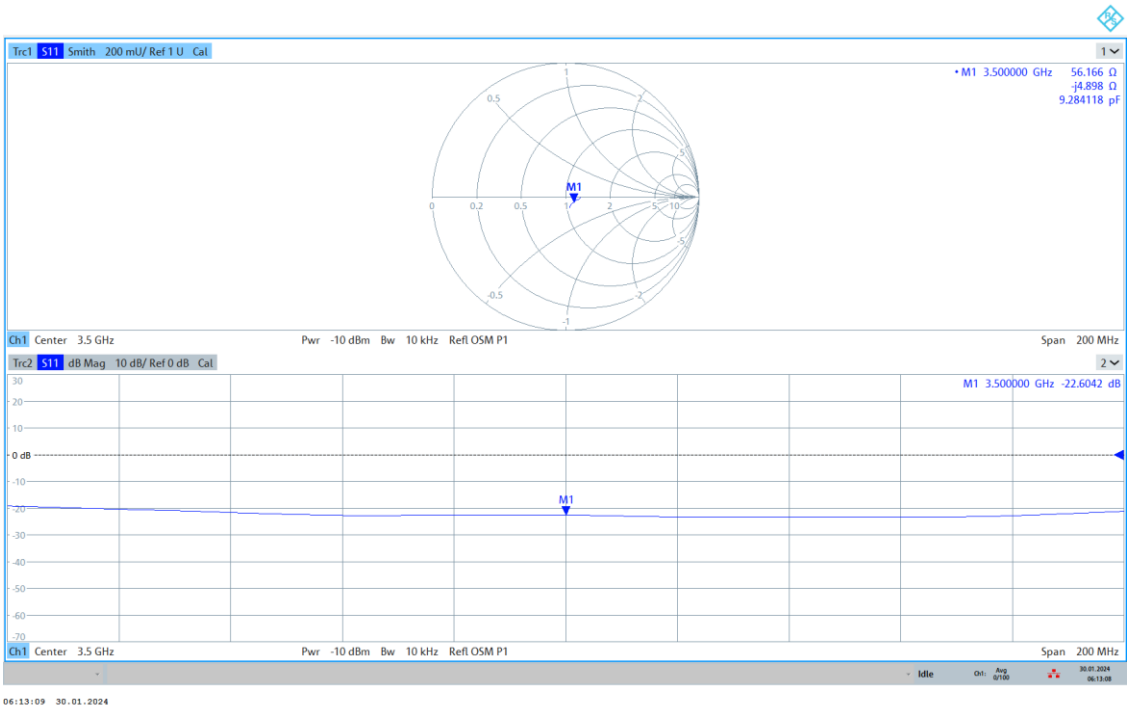
# Dipole Impedance Measurement

20) Photo of Dipole


- The connector of dipole contains no abnormalities.

# Dipole Impedance Measurement

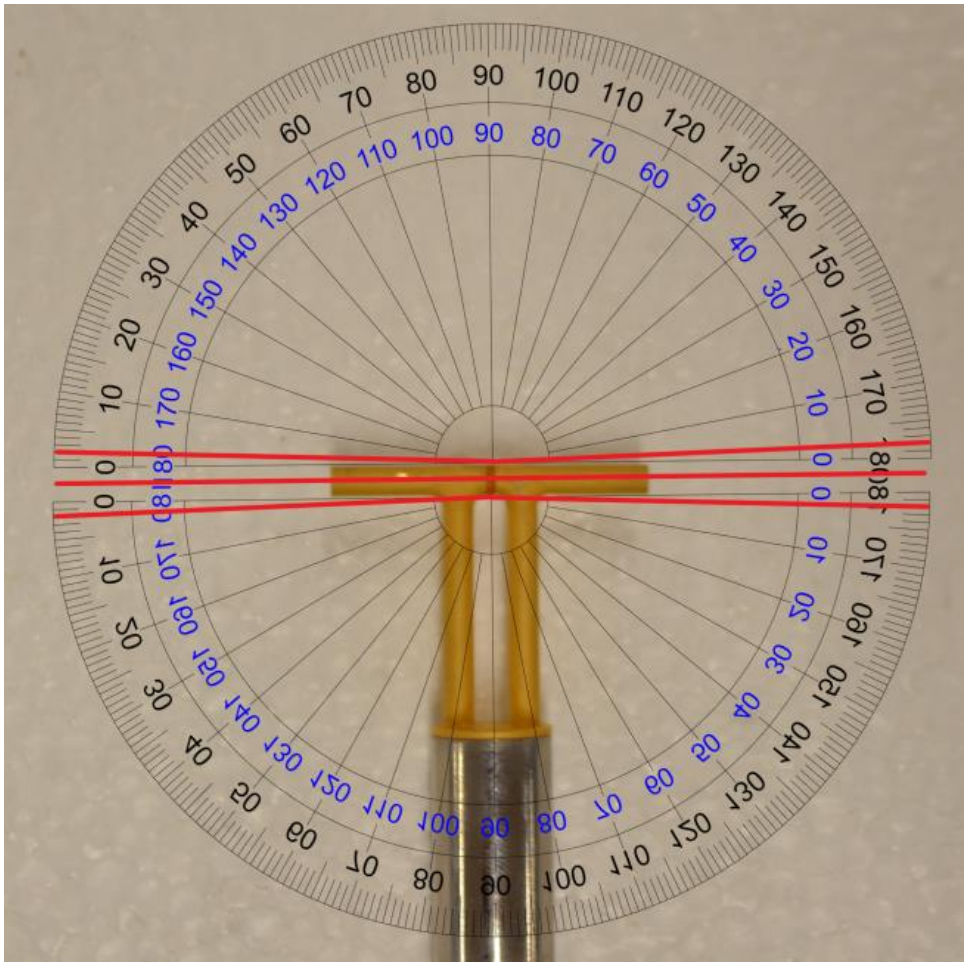
21) Impedance and Return/Loss




- Return/Loss is greater than the -20 dB cutoff and Impedance is within 5 Ω of previous value.

# Dipole Impedance Measurement

22) Dipole Arms



- The center red line indicates that the arms of the dipole fall within $\pm 2°$

# Dipole Impedance Measurement

| Equipment Location | Equipment Name | Model Name | Date of Verification |
|---|---|---|---|
| UL Verification Services Inc.<br>47173 Benicia Street<br>Fremont, CA 94538, U.S.A. | Dipole Antenna | D3700V2-1039 | October 2, 2023 |

| Number: | Check List: | Result: |
|---|---|---|
| 1 | Visual Inspection | Pass |
| 2 | Return/Loss and Impedance | Pass |
| 3 | Dipole Arms | Pass |

| Equipment List: | |
|---|---|
| Equipment Name: | Calibration Date: |
| R&S Vector Network Analyzer | 2/18/2023 |
| ZV-Z135 Calibration Kit | 3/10/2023 |

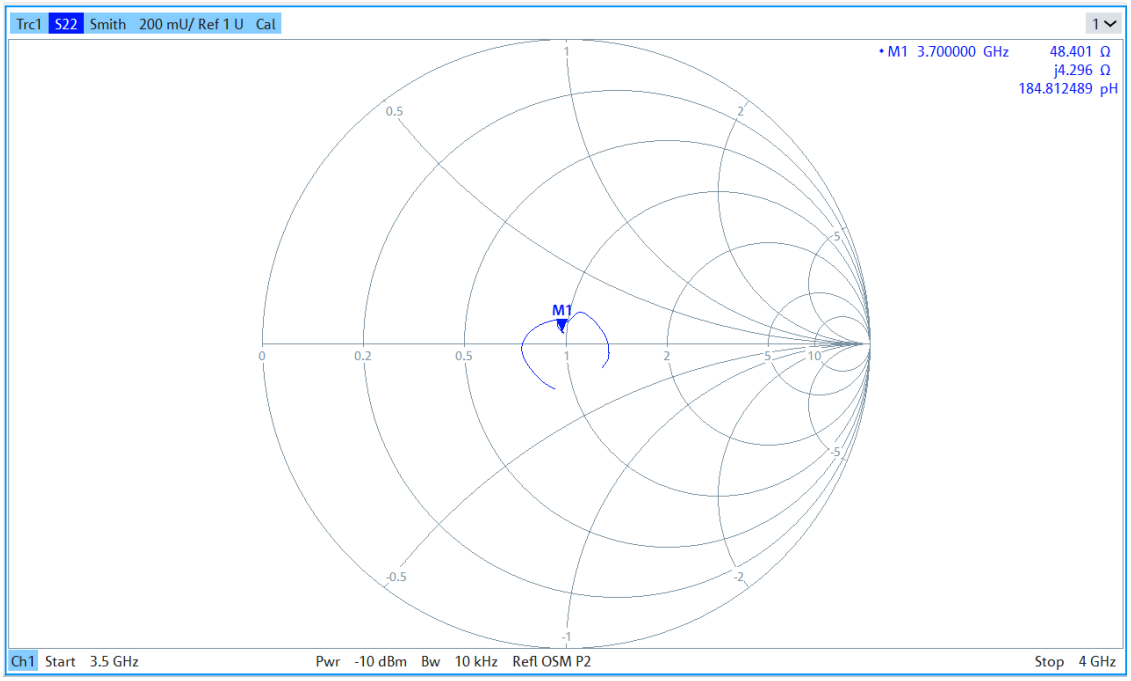
# Dipole Impedance Measurement

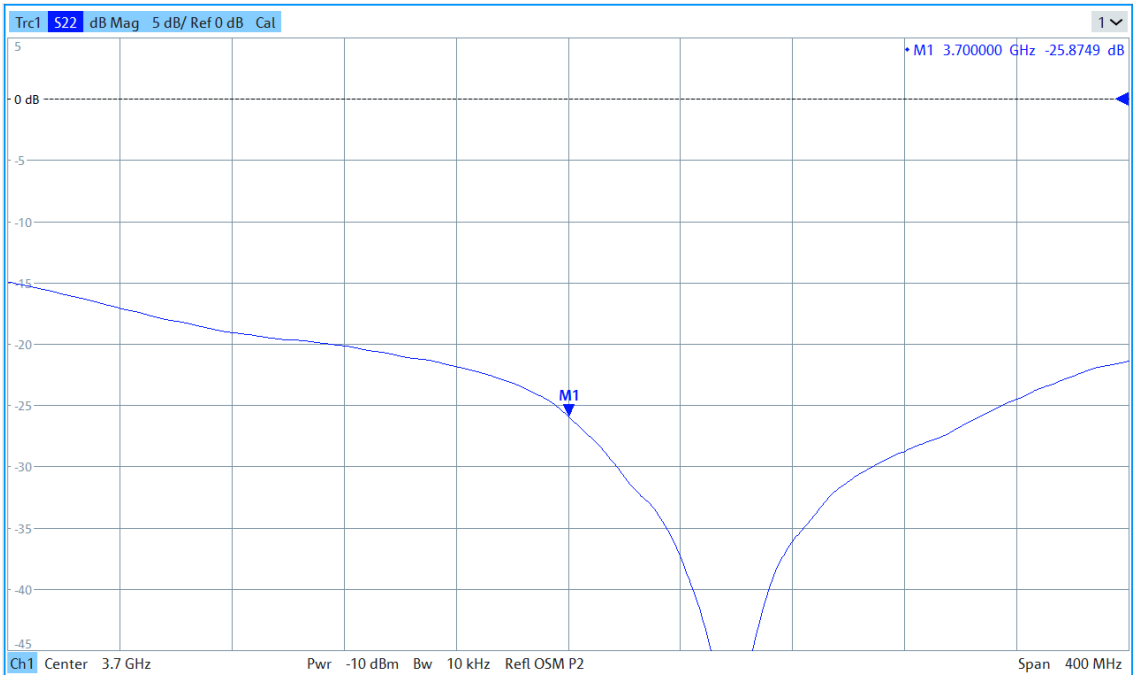
23) Photo of Dipole


- The connector of dipole contains no abnormalities.

# Dipole Impedance Measurement

24) Impedance and Return/Loss

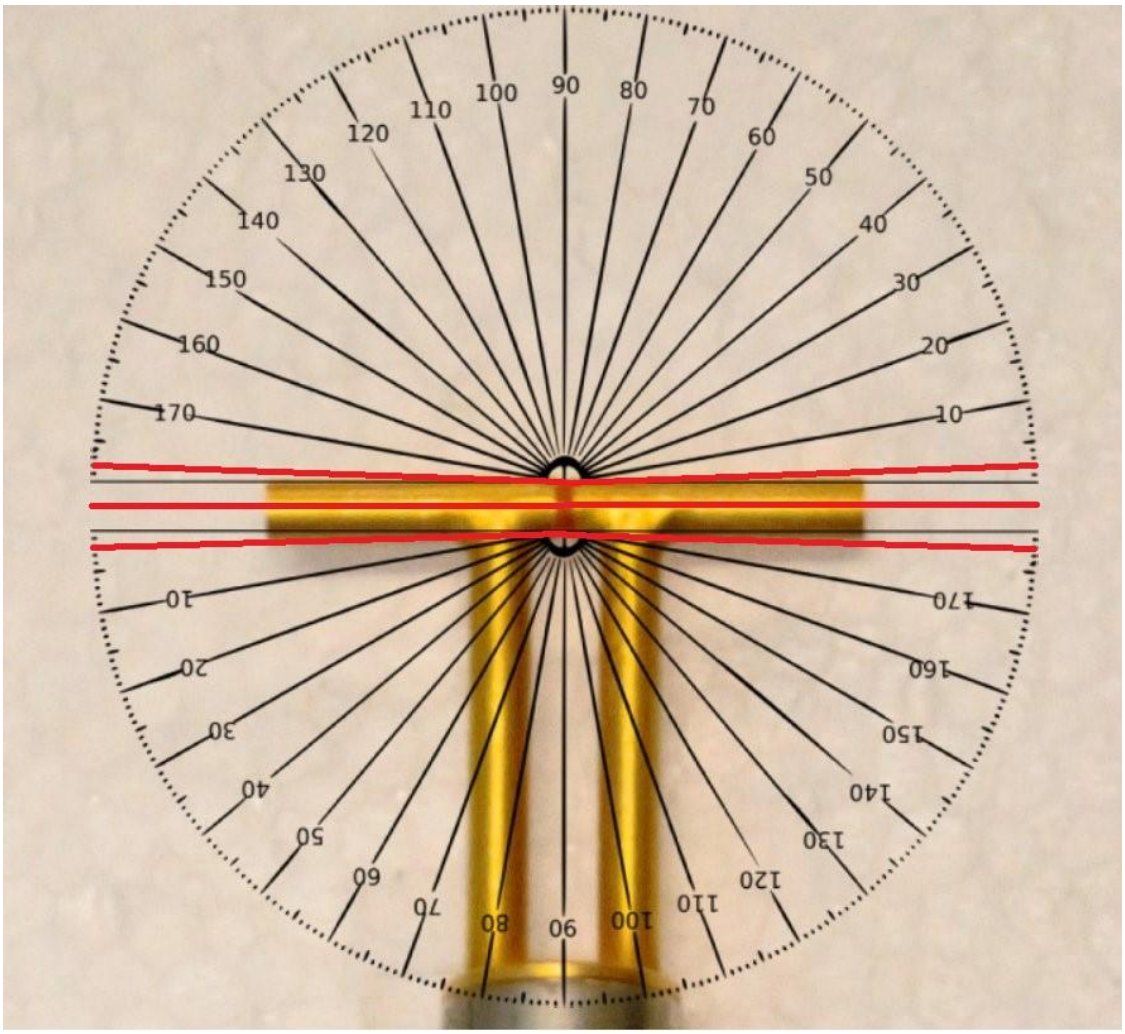



- Return/Loss is greater than the -20 dB cutoff and Impedance is within 5 Ω of previous value.

# Dipole Impedance Measurement

25) Dipole Arms




- The center red line indicates that the arms of the dipole fall within $\pm 2°$