



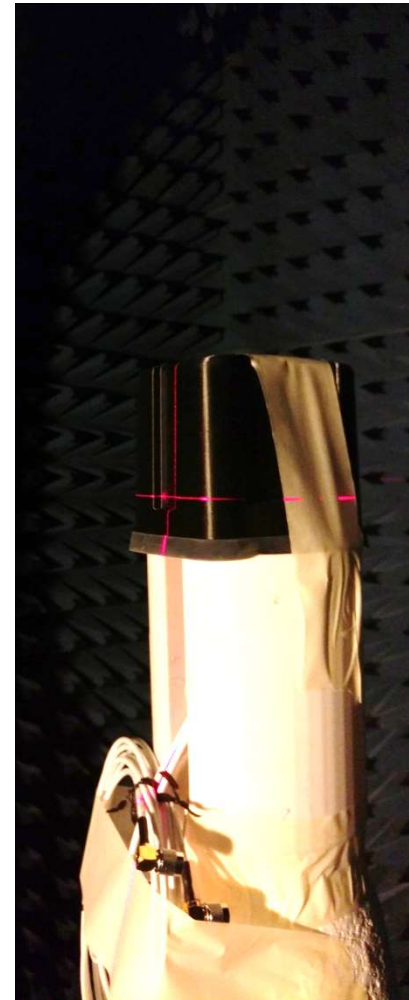
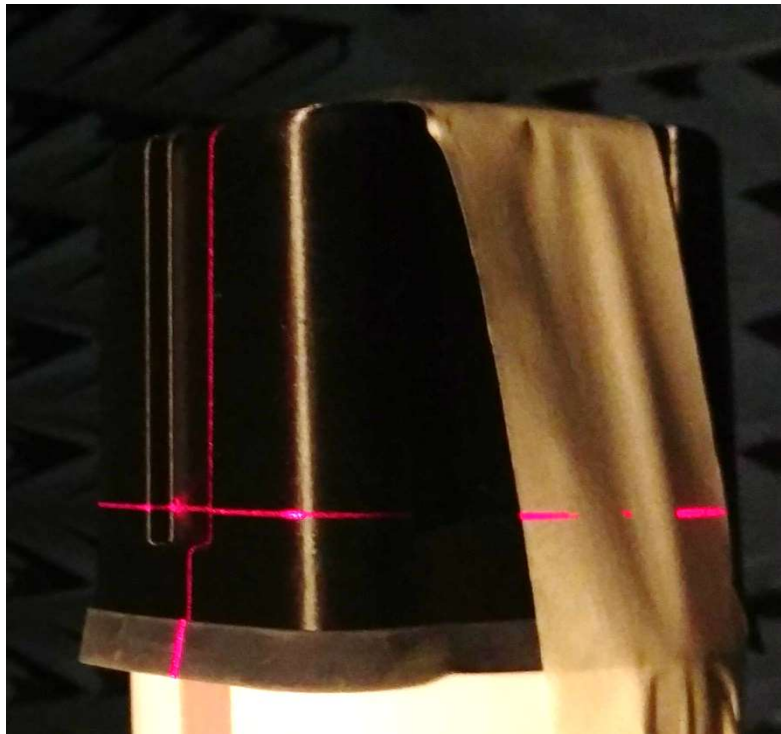
Metrom UWB Antenna Design Measurements of P1 Prototypes

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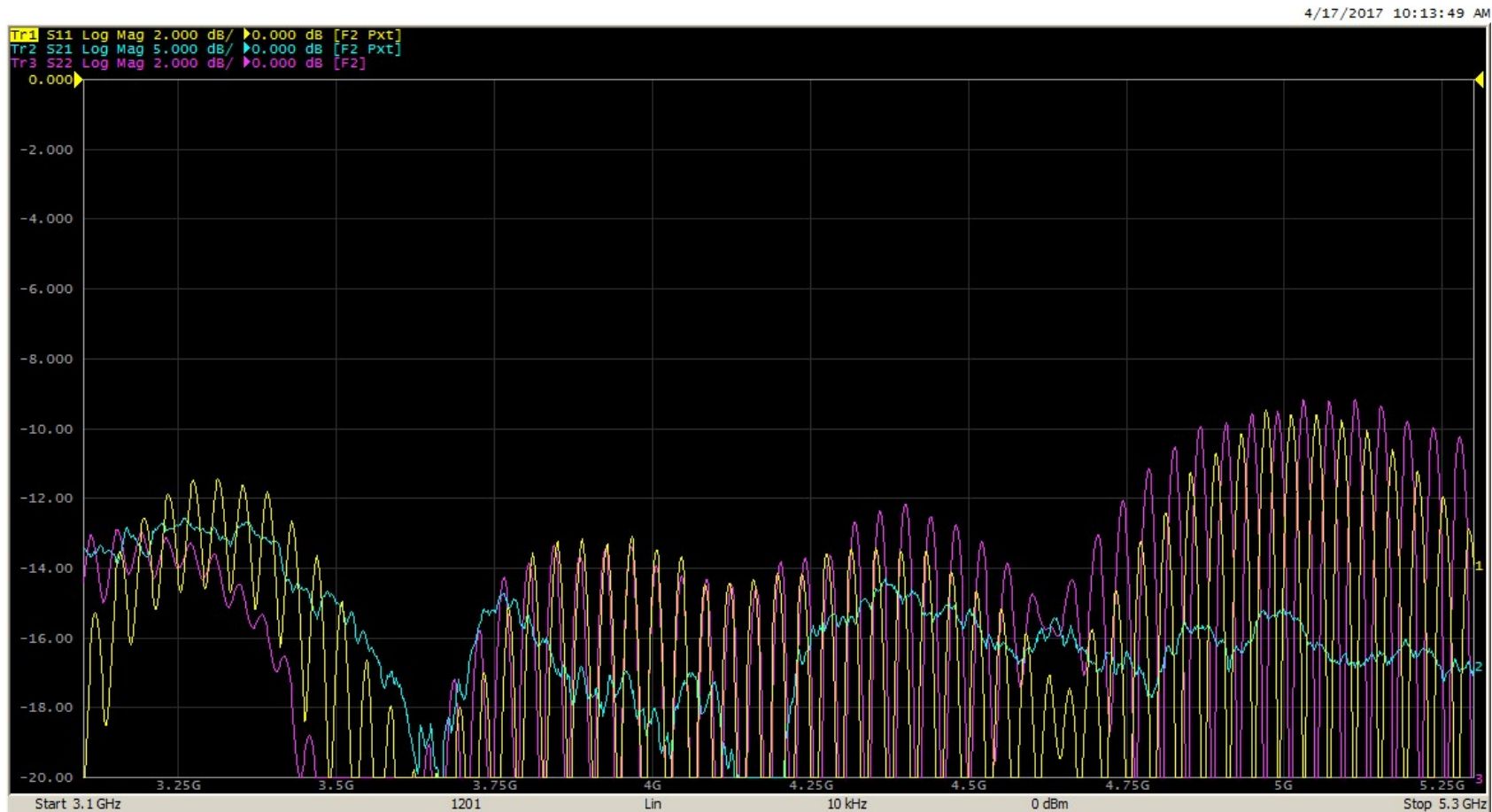
Metrom UWB Antenna Design

- Metrom UWB antenna requirements
 - Directional wide band antenna pair
 - Frequency range: 3.1 GHz to 5.3 GHz
 - Gain – as high as possible
 - Vivaldi tapered slot antenna



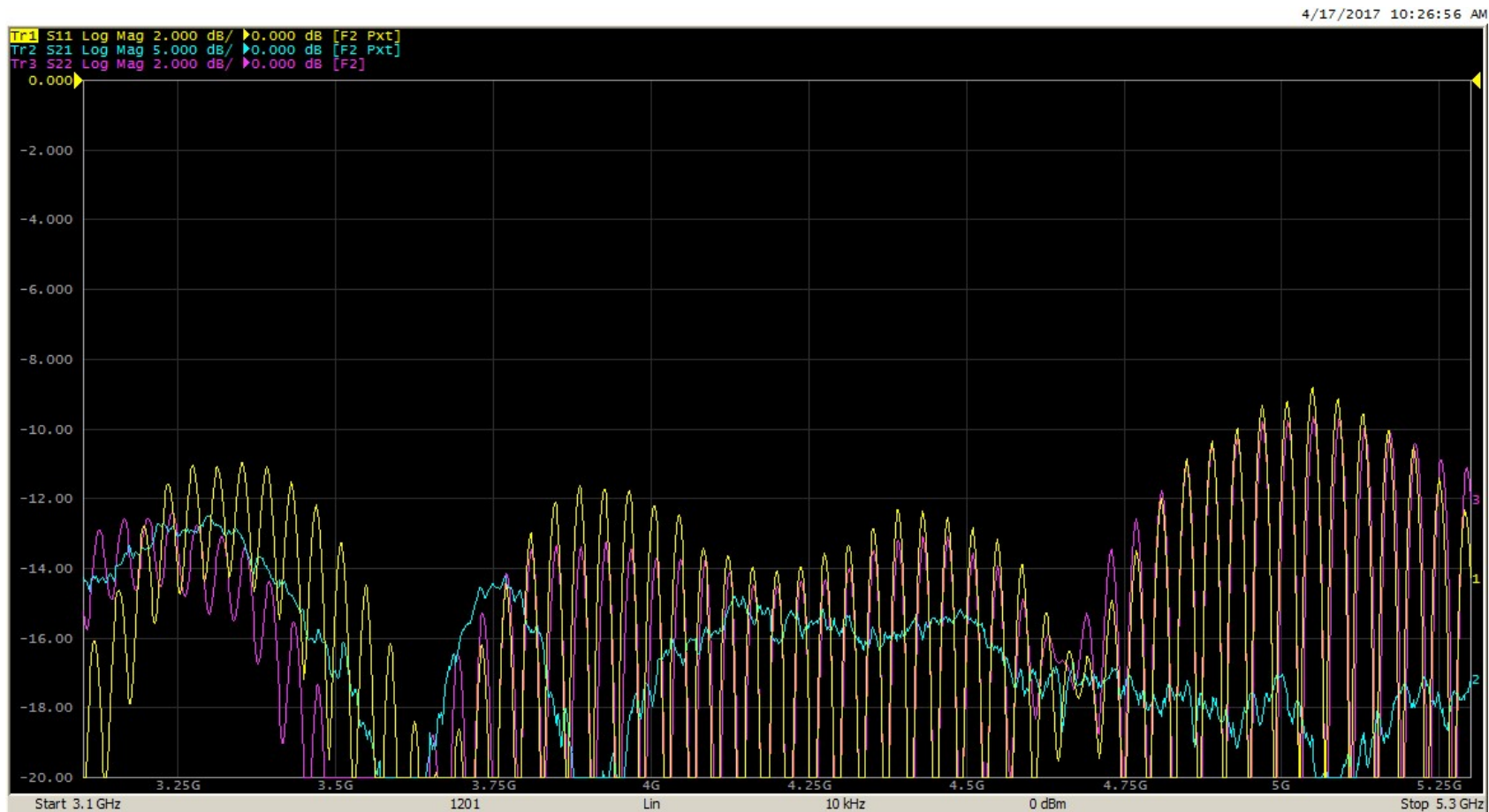
Metrom UWB Vivaldi Antenna Design

- S-Parameters
 - AUT#1: Port1 – Left UWB antenna, Port2 – Right UWB antenna



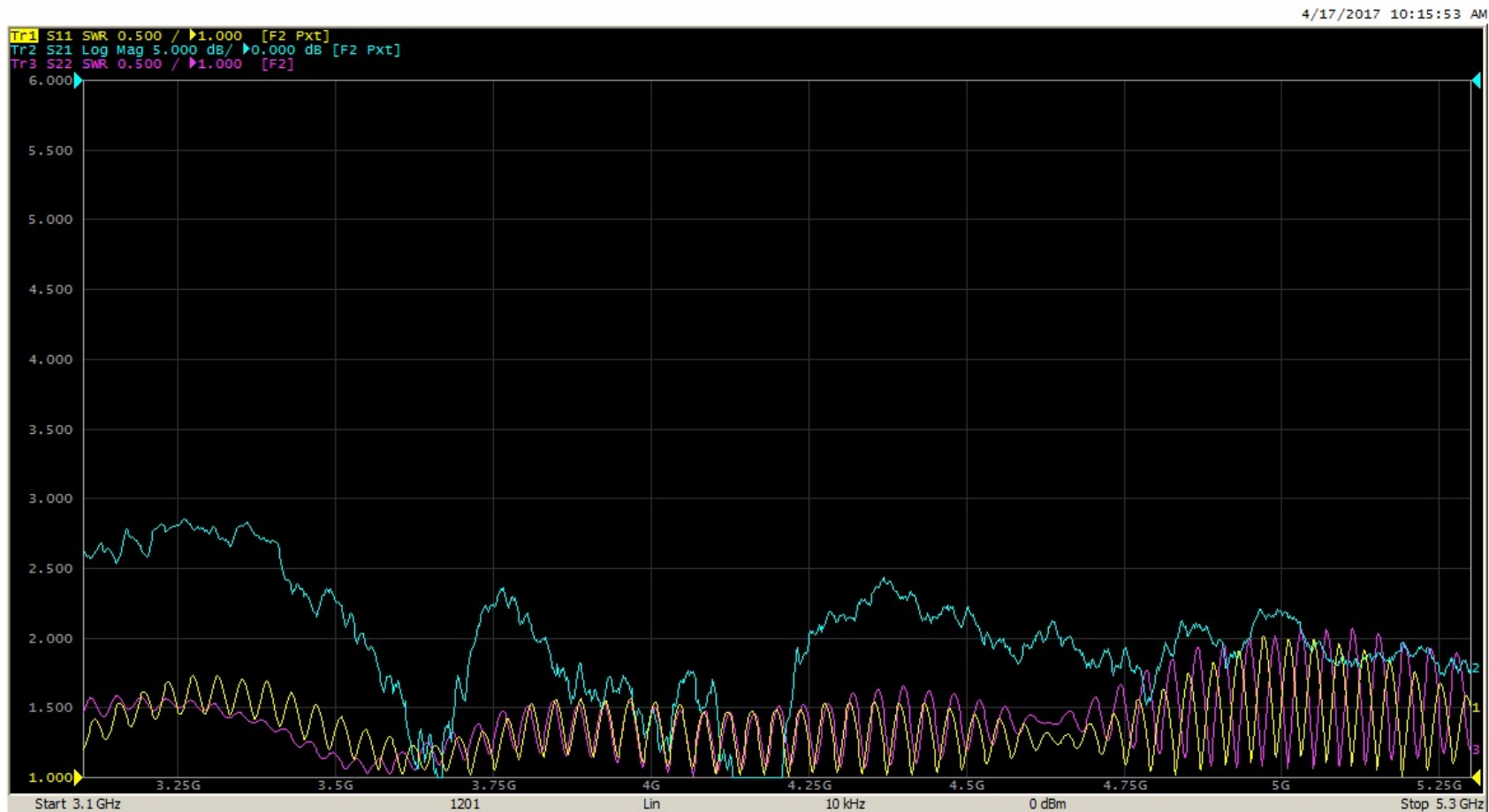
Metrom UWB Vivaldi Antenna Design

- S-Parameters
 - AUT#2: Port1 – Left UWB antenna, Port2 – Right UWB antenna



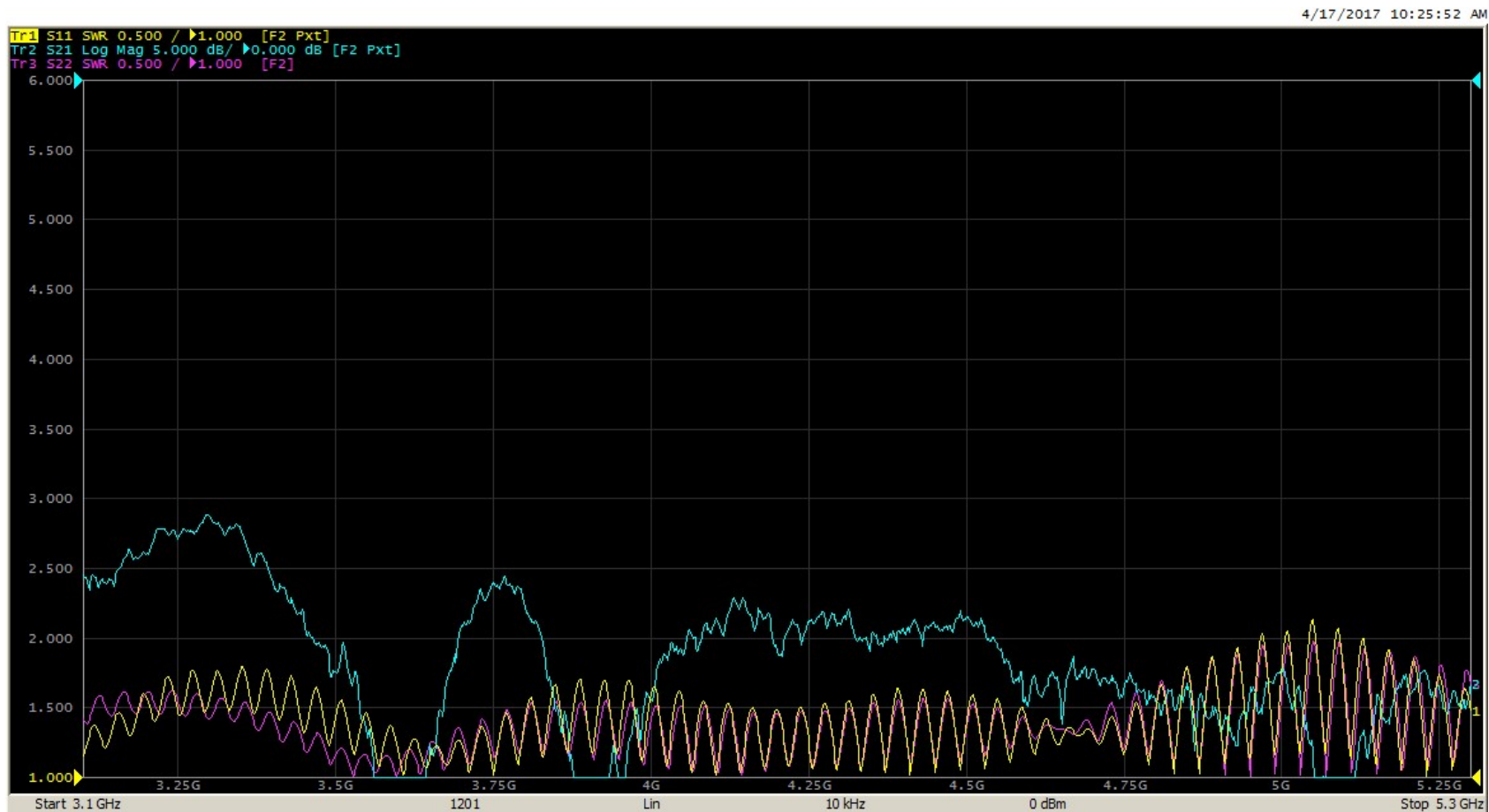
Metrom UWB Vivaldi Antenna Design

- VSWR, Isolation
 - AUT#1: Port1 – Left UWB antenna, Port2 – Right UWB antenna

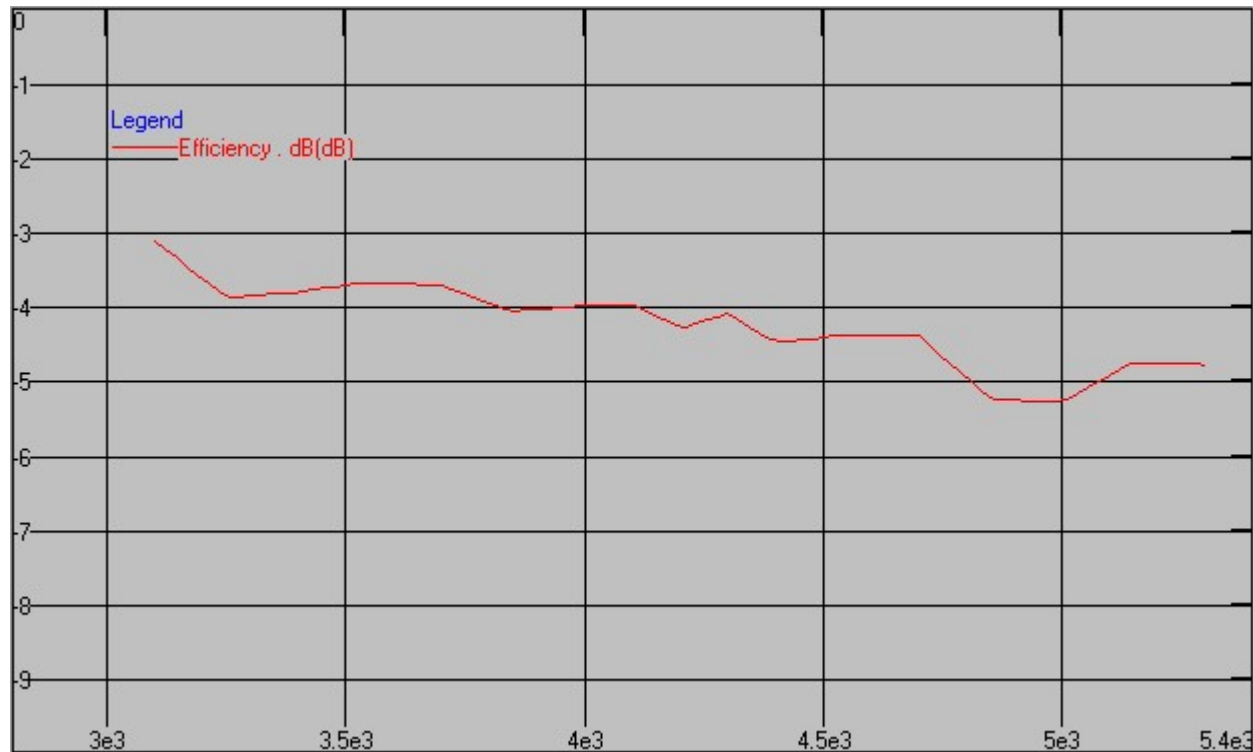


Metrom UWB Vivaldi Antenna Design

- VSWR, Isolation
 - AUT#2: Port1 – Left UWB antenna, Port2 – Right UWB antenna

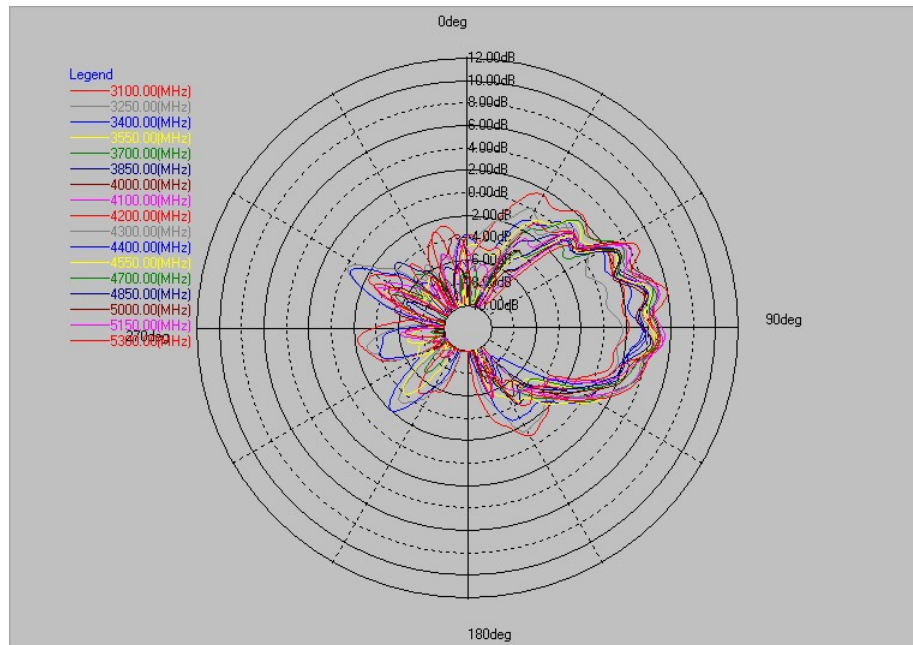


- Total Efficiency (includes cable loss)
 - AUT#1: Port1 – Left UWB antenna

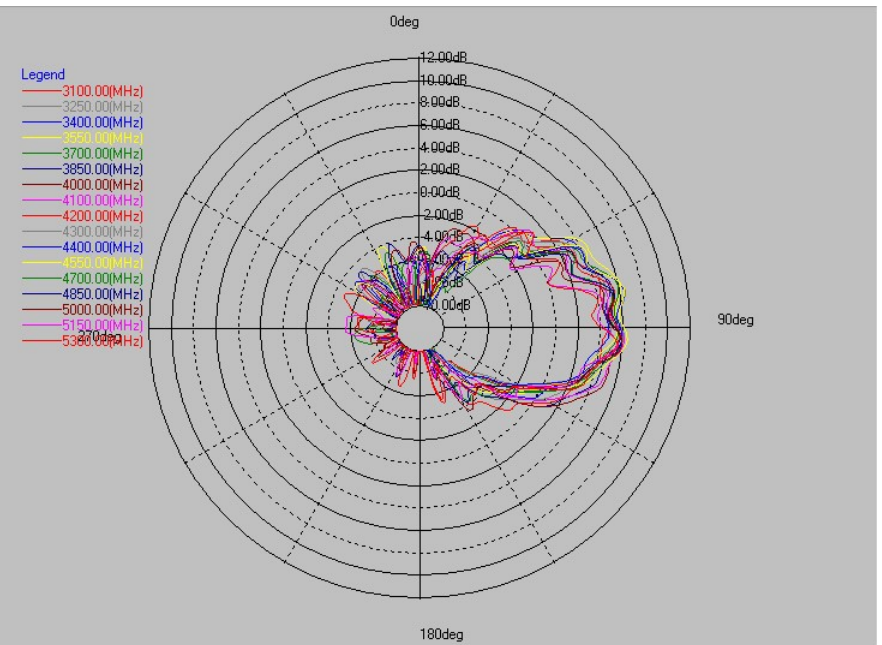


Metrom UWB Vivaldi Antenna Design

- Elevation Radiation Pattern vs Frequency
 - AUT#1: Port1 – Left UWB antenna, Port2 – Right UWB antenna



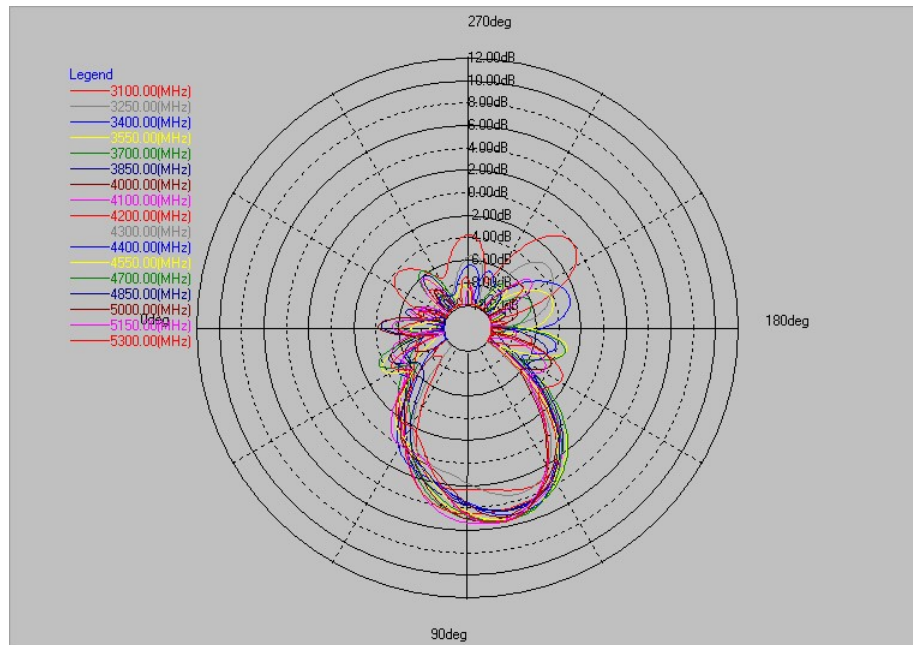
Port 1 - Left



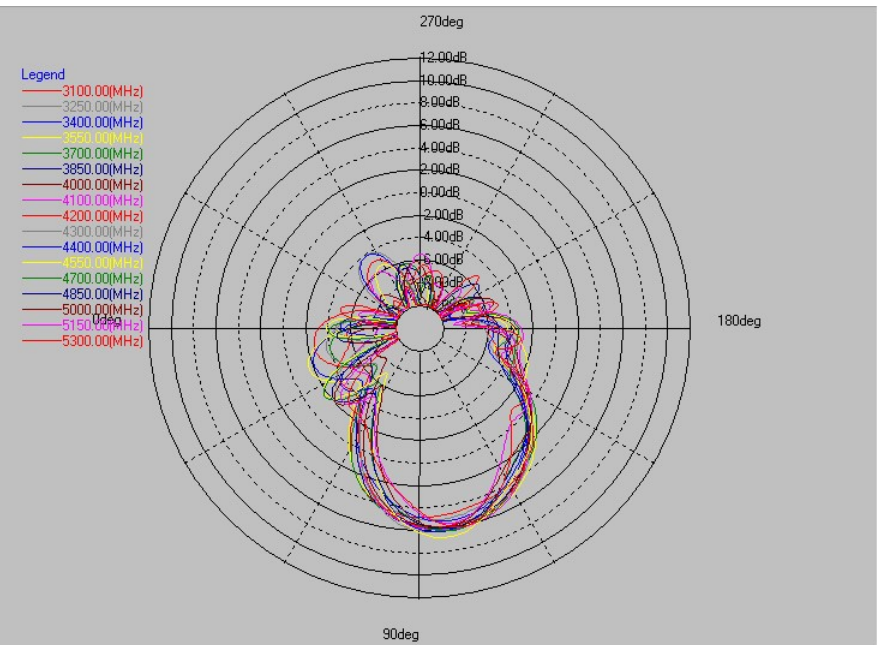
Port 2 - Right

Metrom UWB Vivaldi Antenna Design

- Azimuthal Radiation Pattern vs Frequency
 - AUT#1: Port1 – Left UWB antenna, Port2 – Right UWB antenna



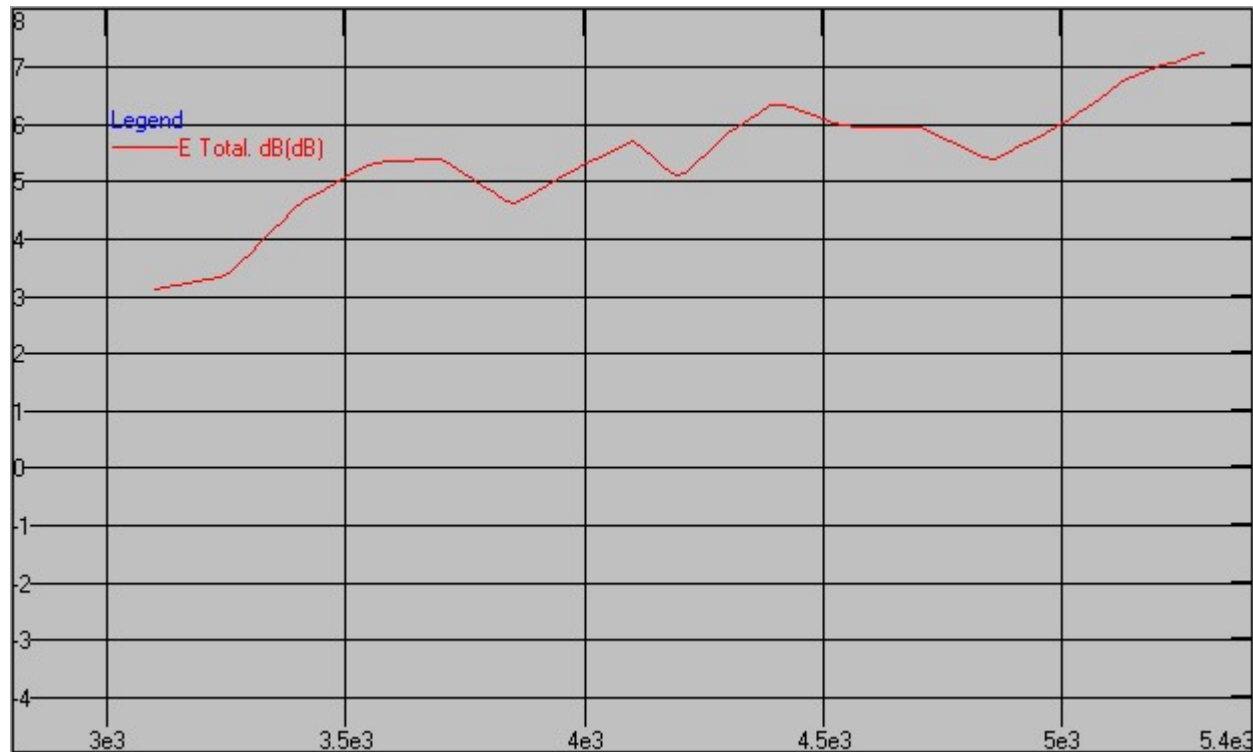
Port 1 - Left



Port 2 - Right

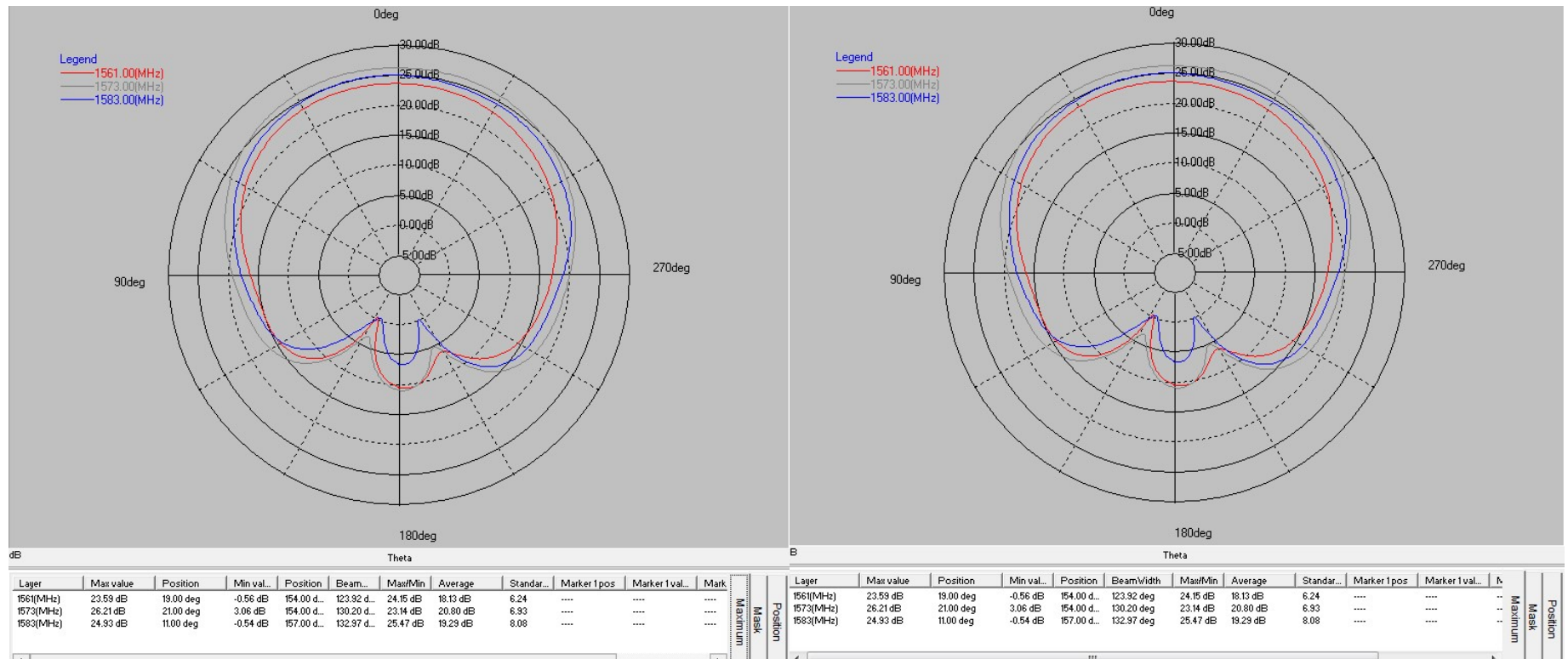
Metrom UWB Vivaldi Antenna Design

- Maximum gain of 3D pattern (includes cable losses)
 - AUT#1: Port1 – Left UWB antenna



Metrom UWB Vivaldi Antenna Design

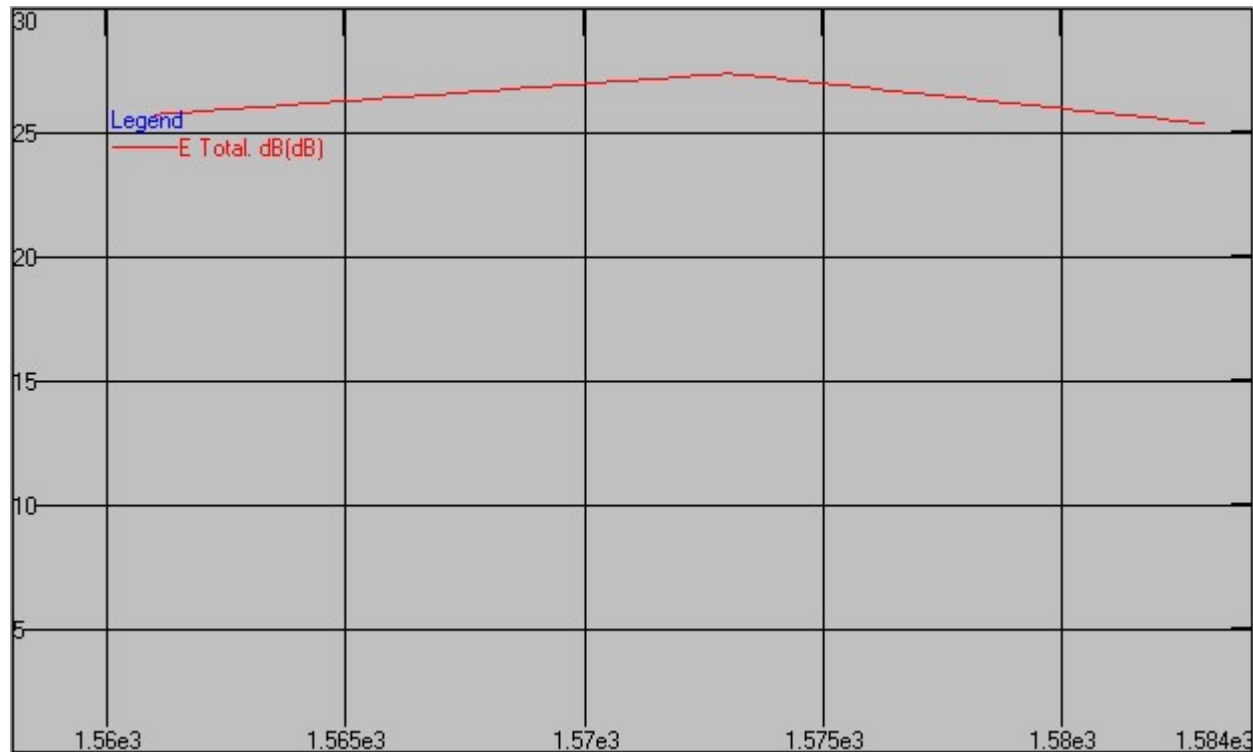
- Elevation Radiation Pattern vs Frequency
 - AUT#1: GPS - RHCP



Phi = 0

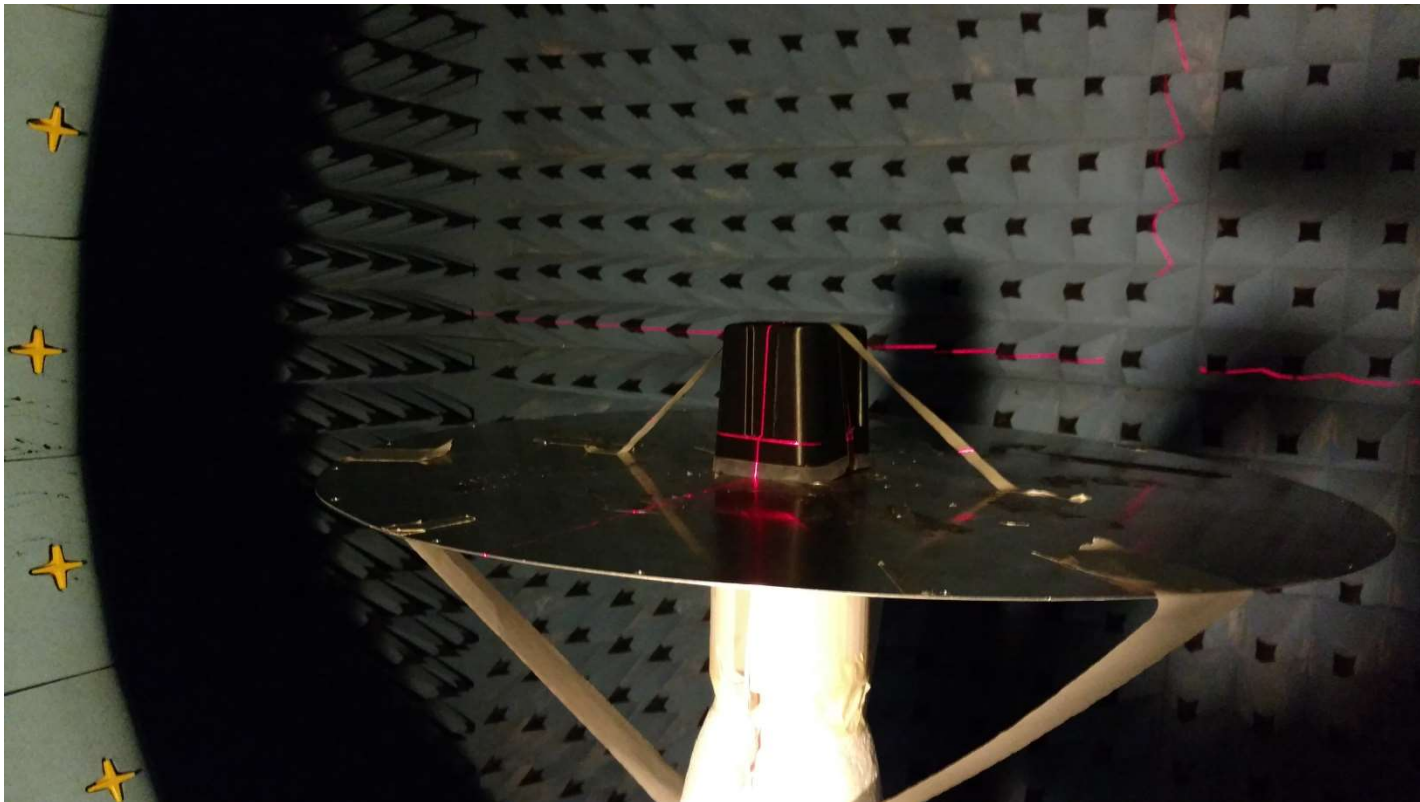
Phi = 90

- Maximum gain of 3D pattern (includes cable losses)
 - AUT#1: GPS



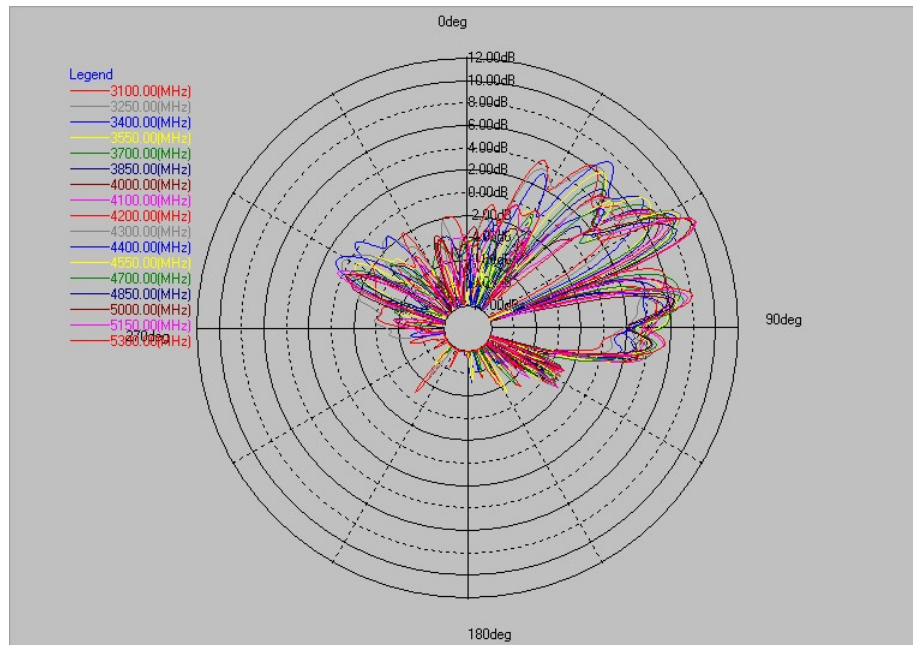
Metrom UWB Antenna Design

- Measurement over a ground plane
 - Mounted on ground plane with a through hole
 - 3 ft diameter

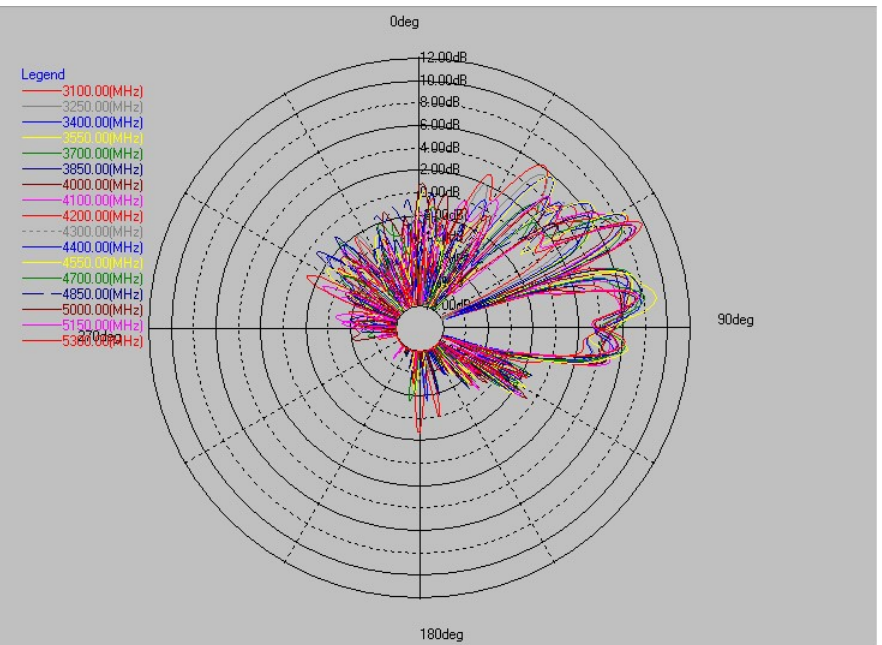


Metrom UWB Vivaldi Antenna Design

- Over ground plane - Elevation Radiation Pattern vs Frequency
 - AUT#1: Port1 – Left UWB antenna, Port2 – Right UWB antenna



Port 1 - Left



Port 2 - Right

Metrom UWB Vivaldi Antenna Design

- Over ground plane - Maximum gain of 3D pattern (includes cable losses)
 - AUT#1: Port1 – Left UWB antenna

