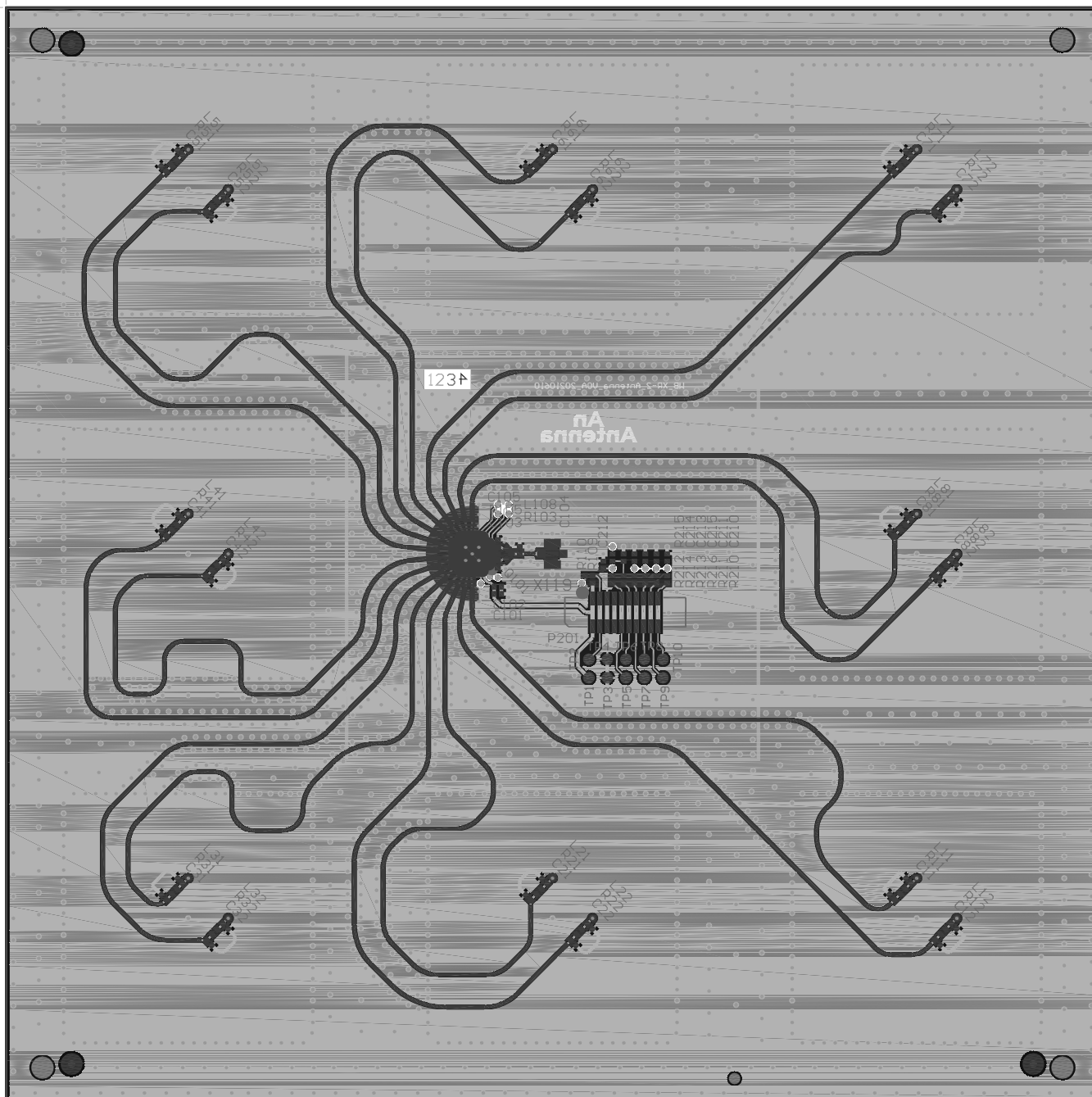


# Antenna Study

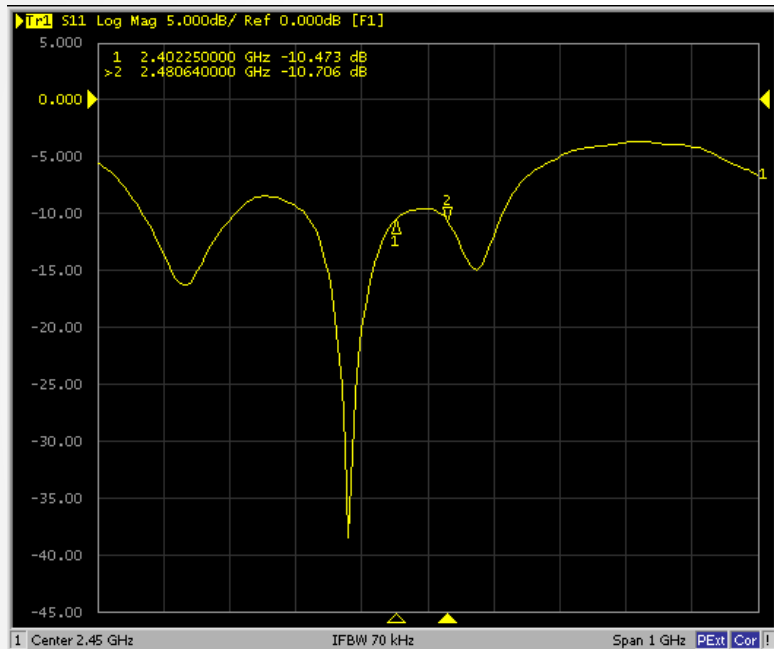
- **Manufacturer Name:SCALA Digital Technology(Ningbo) Co., LTD**
- **Address: No.7 Hong Da Road, Hong Tang Industrial Zone A Jiang Bei District, Ningbo,China**
- **Project Name:Locater**
- **Model:WB\_XR-2\_Antenna**
- **Valuation date:2023.08.17**
- **Antenna Gain(dBi):2dBi**

150,00

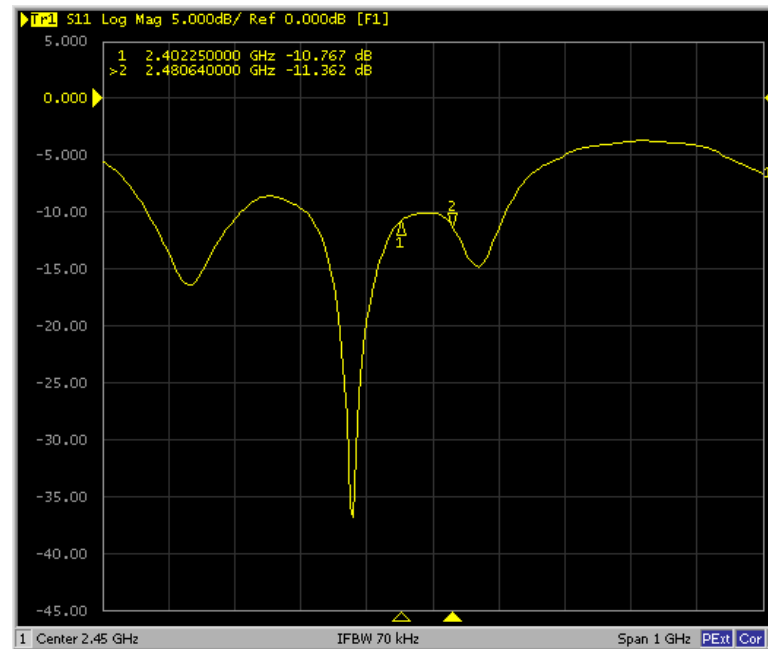
150,00



# Impact of the case in antenna matching.

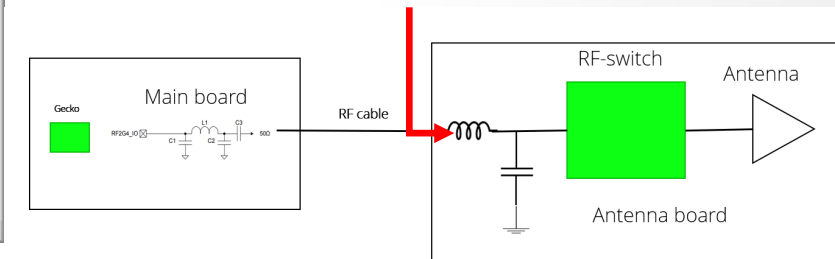


S11 ant 11 without the case



S11 ant 11 with the case

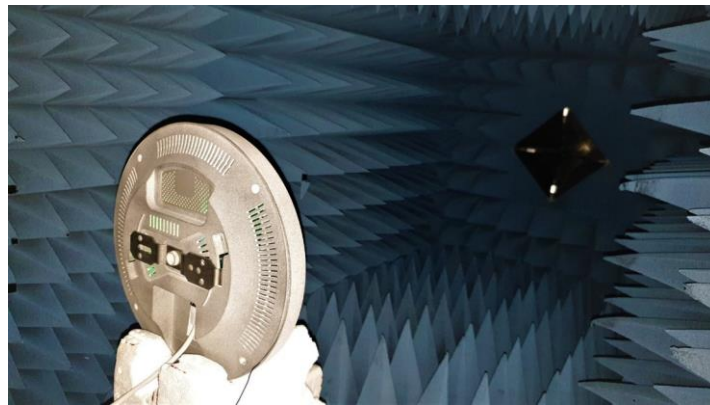
- The case has very little impact on the matching.





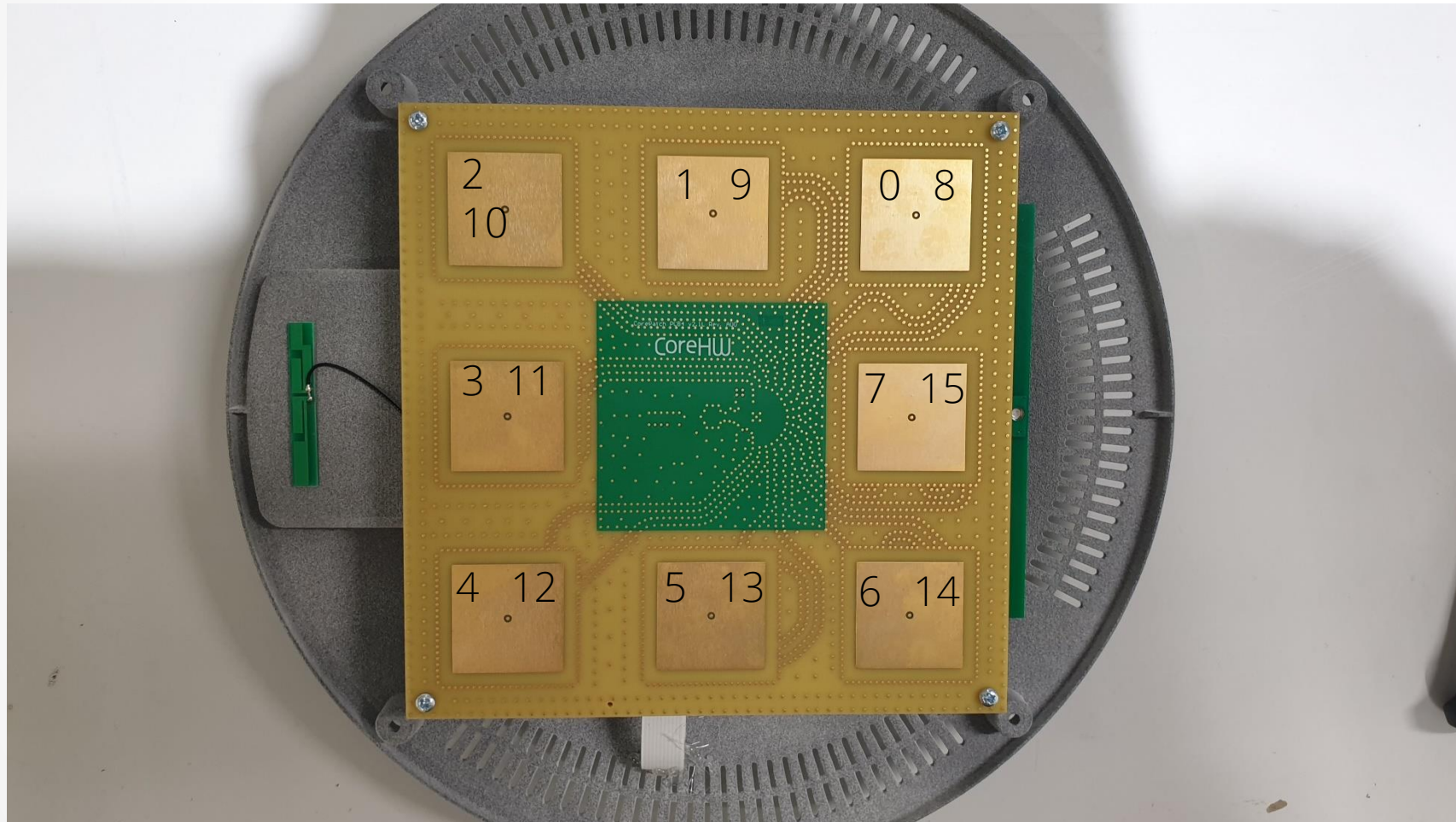
# Radiation pattern measurements

- The radiation patterns were measured in vertical position with all antennas.
- The radiation patterns show that the polarisation switch between antenna input works like intended.
- Antenna gain to best direction is good. It is up to installation, how large area this HUB can cover



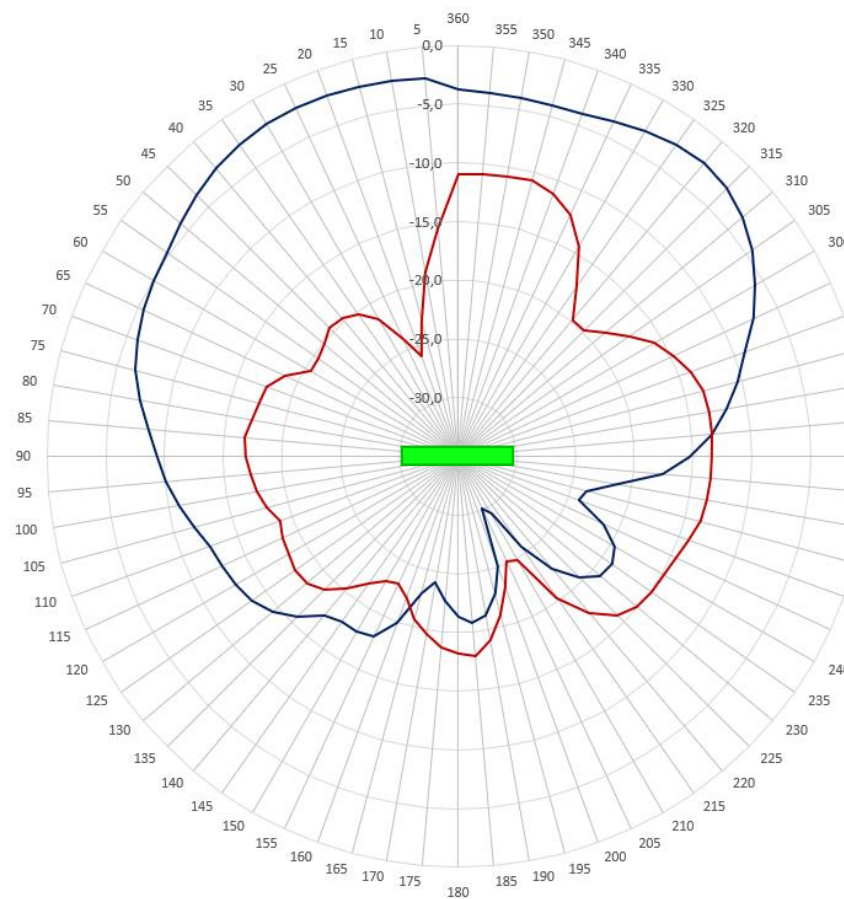
Vertical positioning in chamber

# XR-2 antenna board and antenna numbers



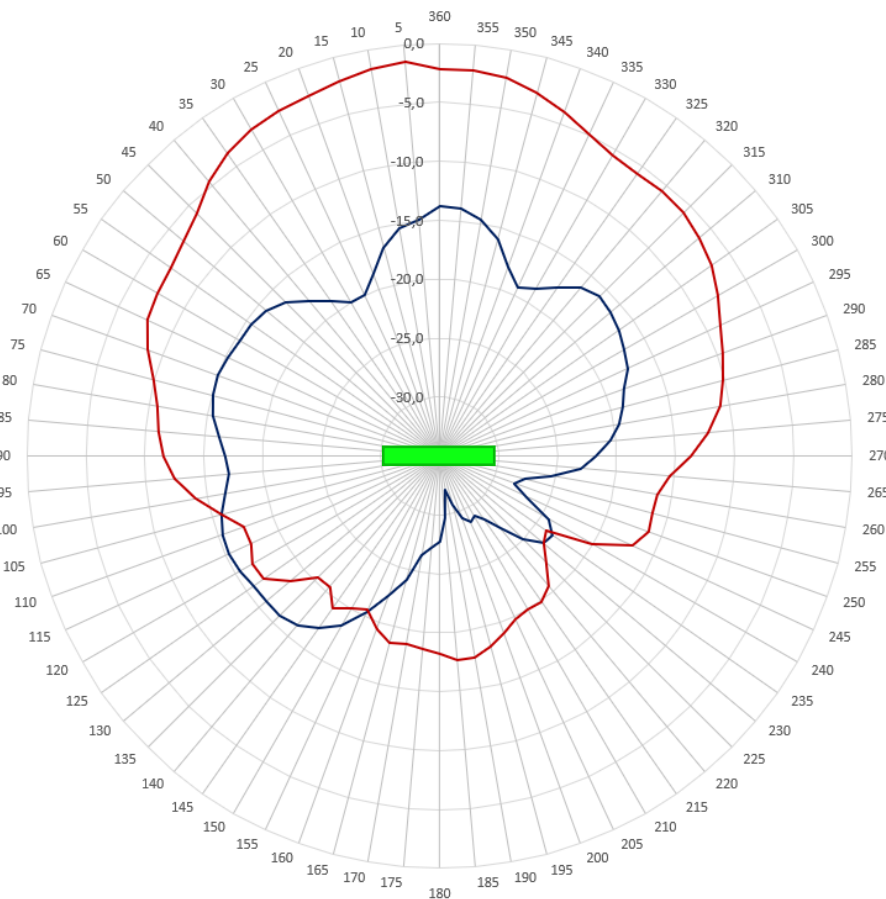
# Radiation pattern measurements in vertical position, ant 0 & 8

— Ant 0, horizontal polarisation — Ant 0, vertical polarisation

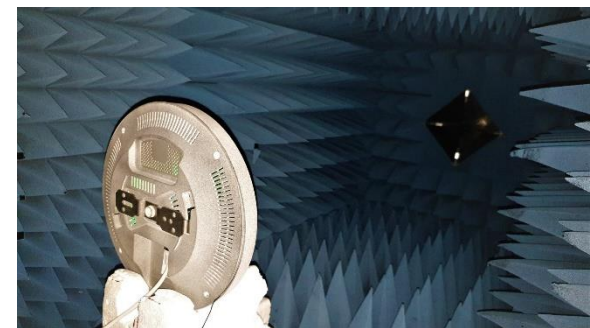


ANT 0

— Ant 8, horizontal polarisation — Ant 8, vertical polarisation

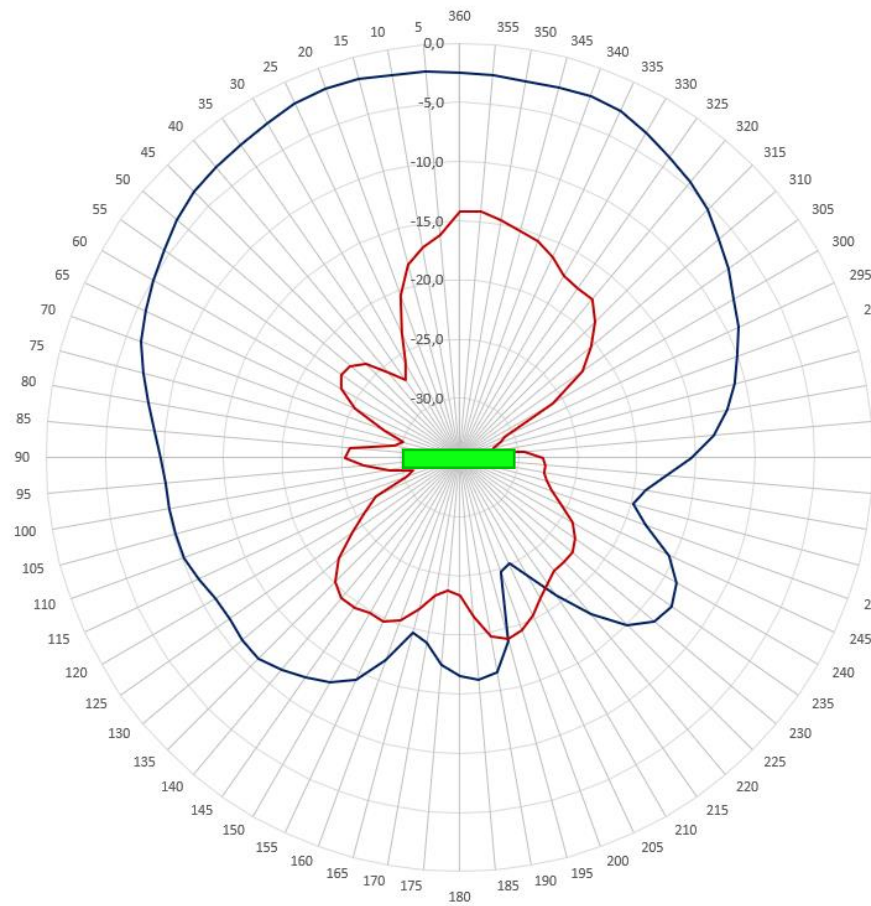


ANT 8



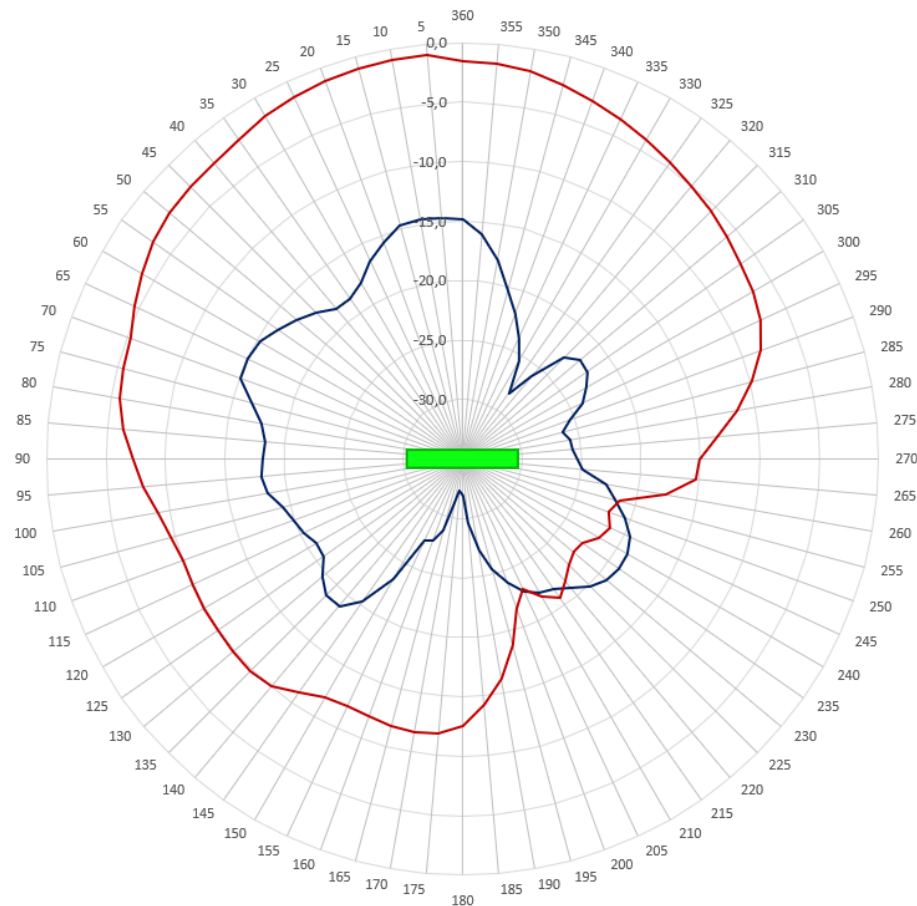
# Radiation pattern measurements in vertical position, ant 1 & 9

— Ant 1, horizontal polarisation — Ant 1, vertical polarisation

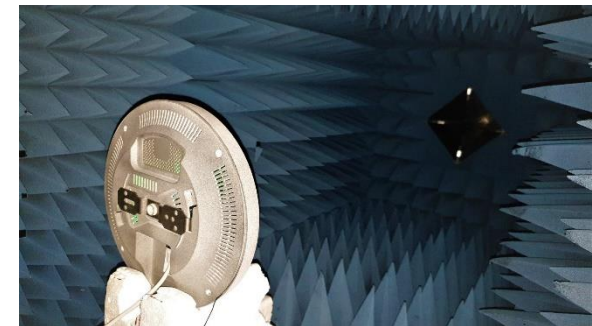


ANT 1

— Ant 9, horizontal polarisation — Ant 9, vertical polarisation



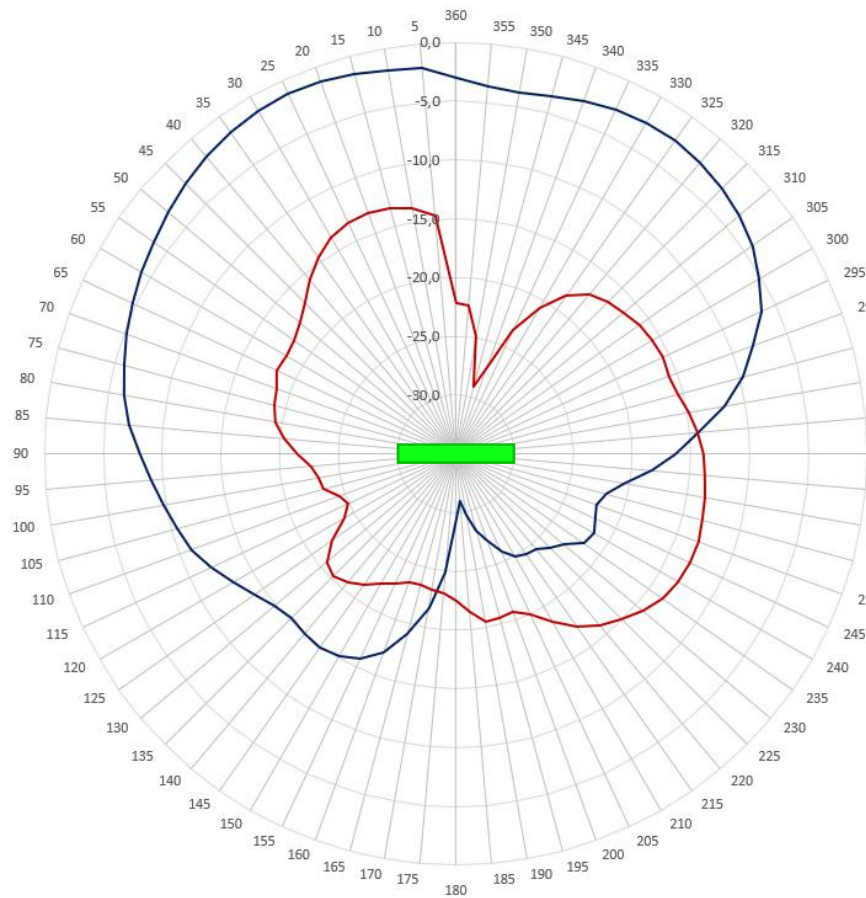
ANT 9





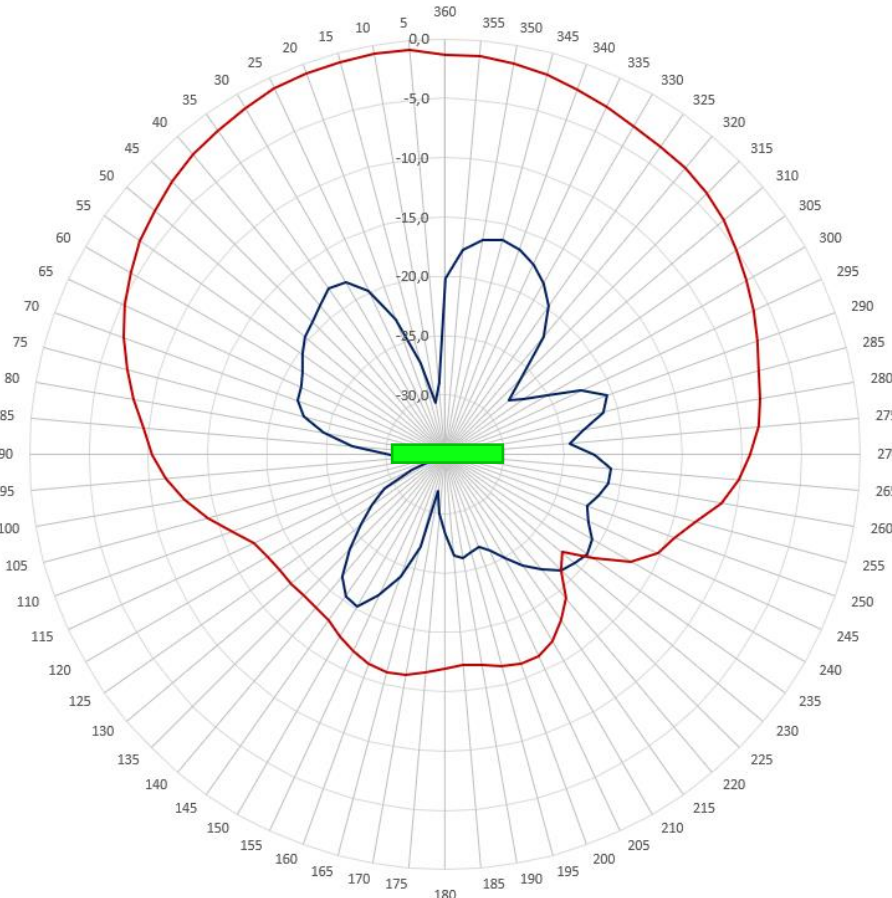
# Radiation pattern measurements in vertical position, ant 2 & 10

— Ant 2, horizontal polarisation — Ant 2, vertical polarisation

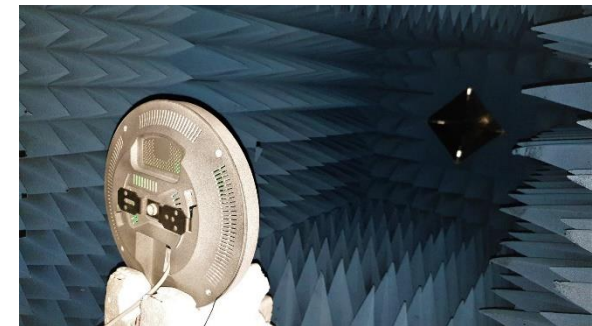


ANT 2

— Ant 10, horizontal polarisation — Ant 10, vertical polarisation

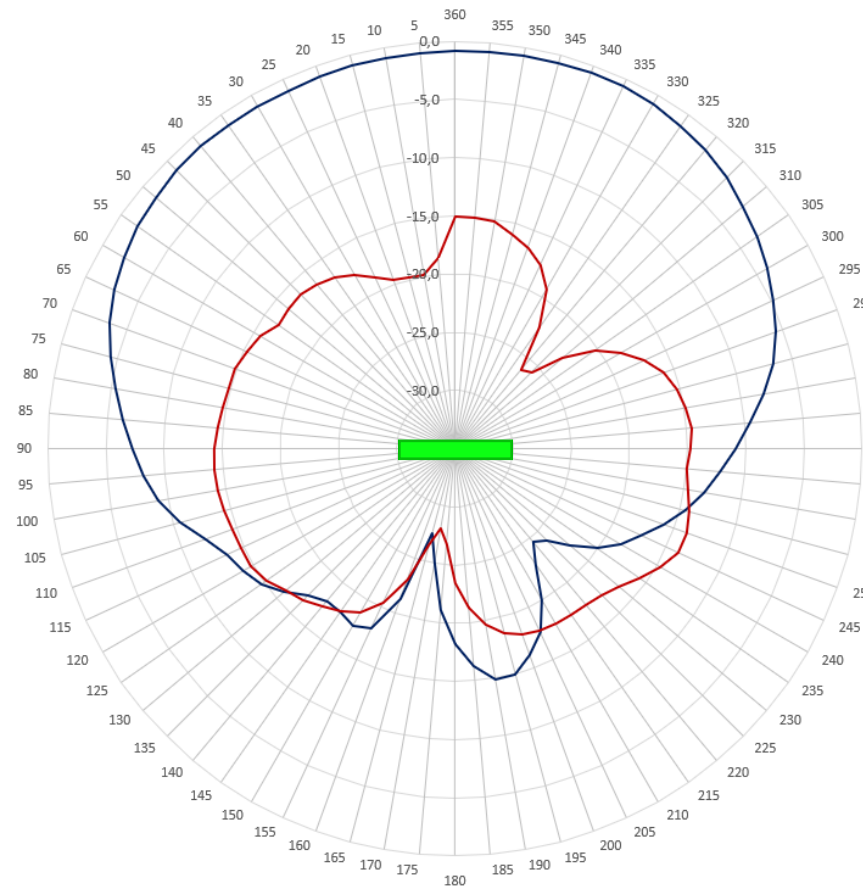


ANT 10



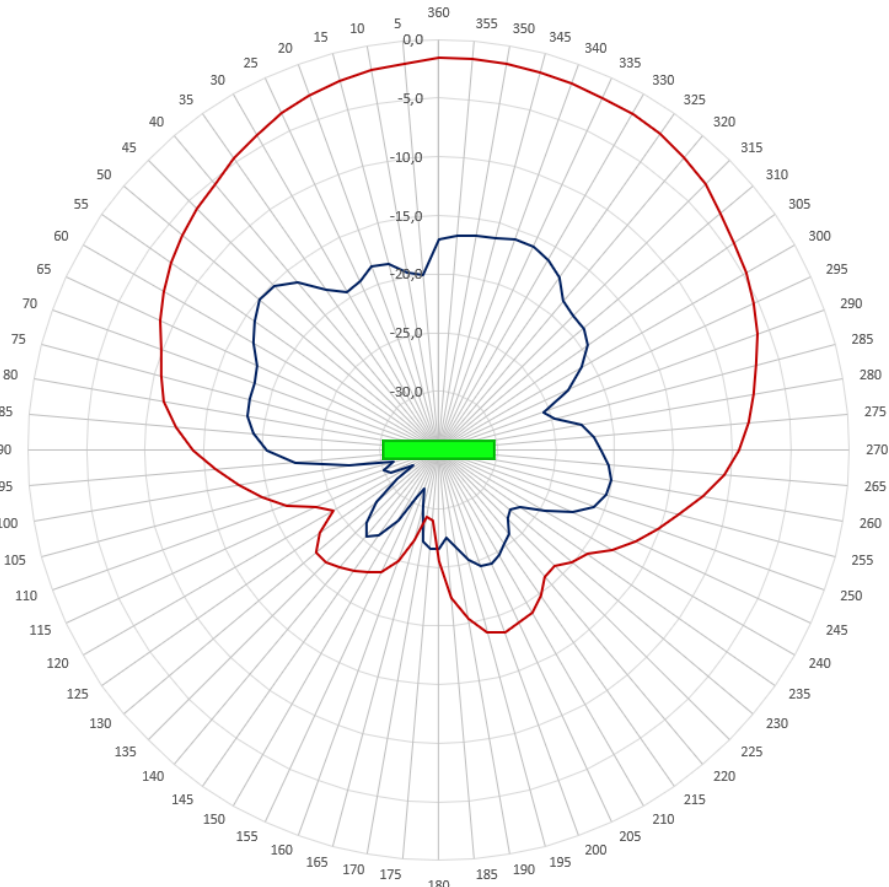
# Radiation pattern measurements in vertical position, ant 3 & 11

— Ant 3, horizontal polarisation — Ant 3, vertical polarisation

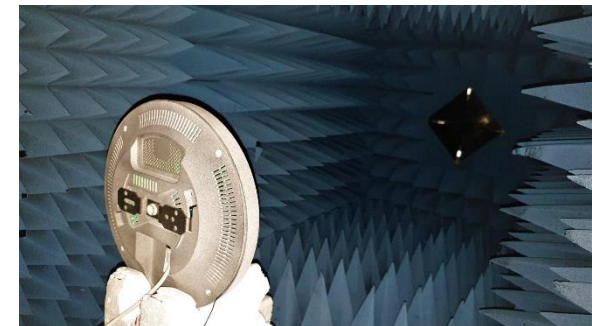


ANT 3

— Ant 11, horizontal polarisation — Ant 11, vertical polarisation

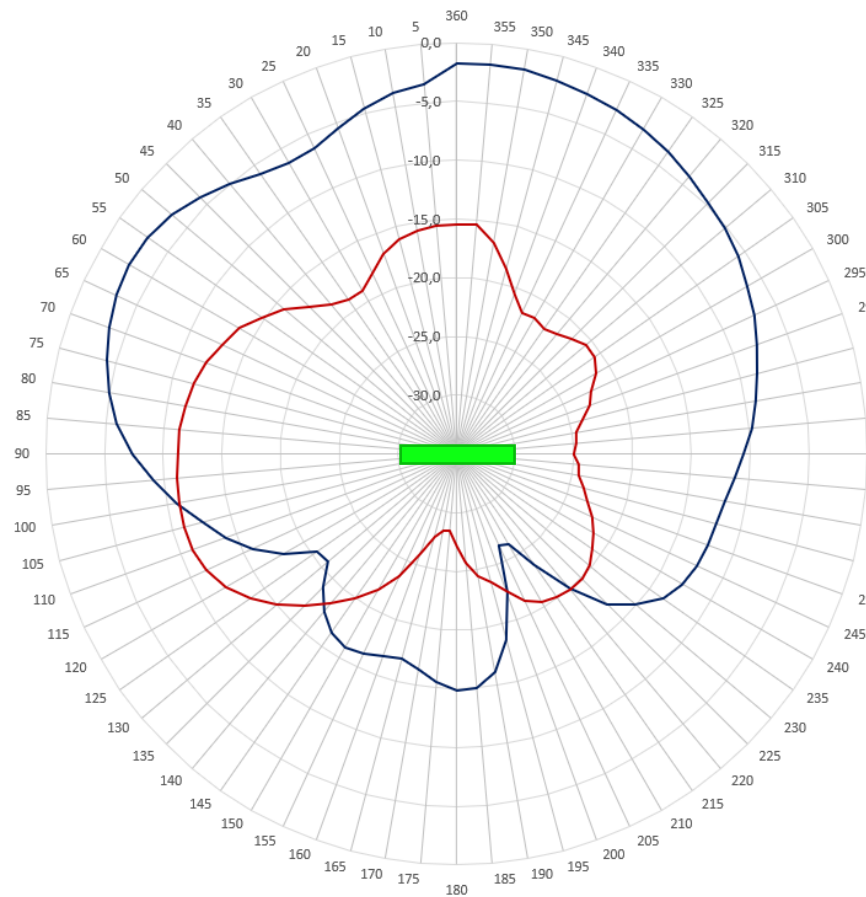


ANT 11



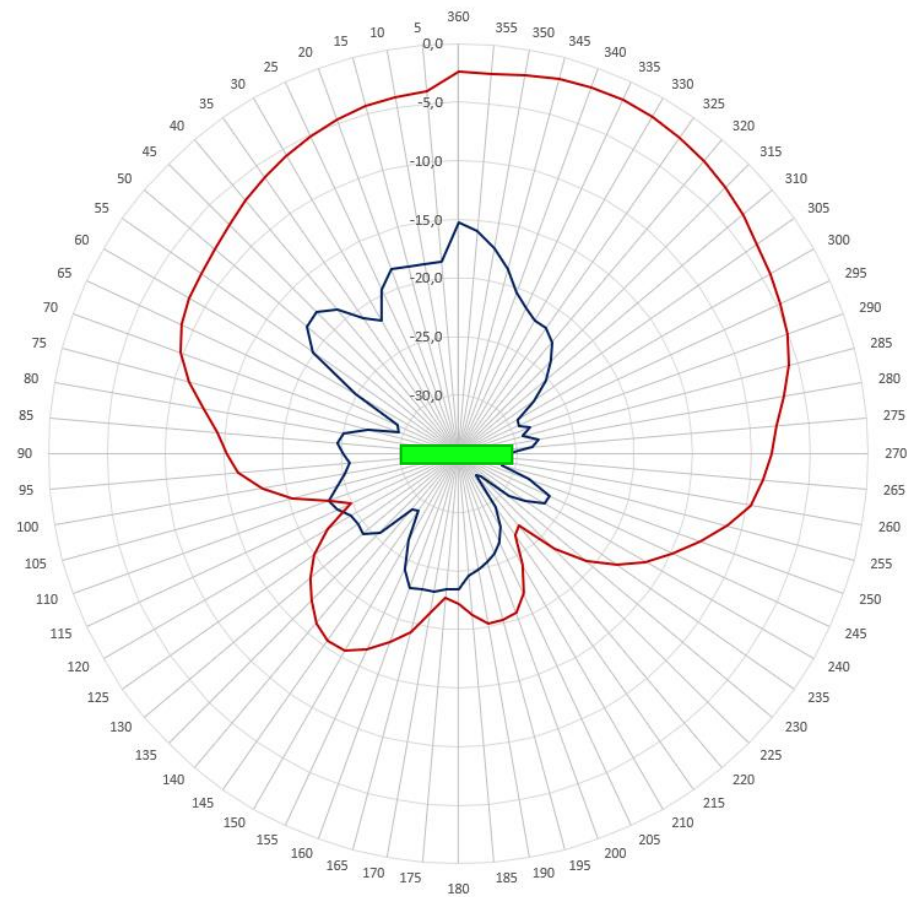
# Radiation pattern measurements in vertical position, ant 4 & 12

— Ant 4, horizontal polarisation — Ant 4, vertical polarisation

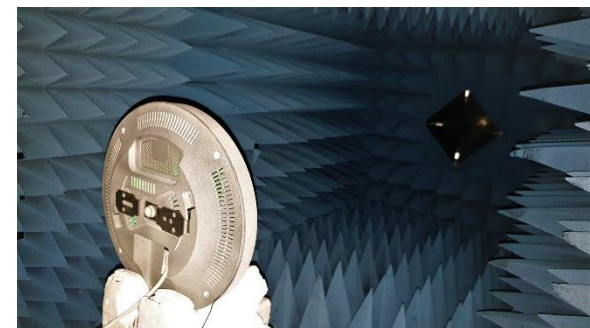


ANT 4

— Ant 12, horizontal polarisation — Ant 12, vertical polarisation

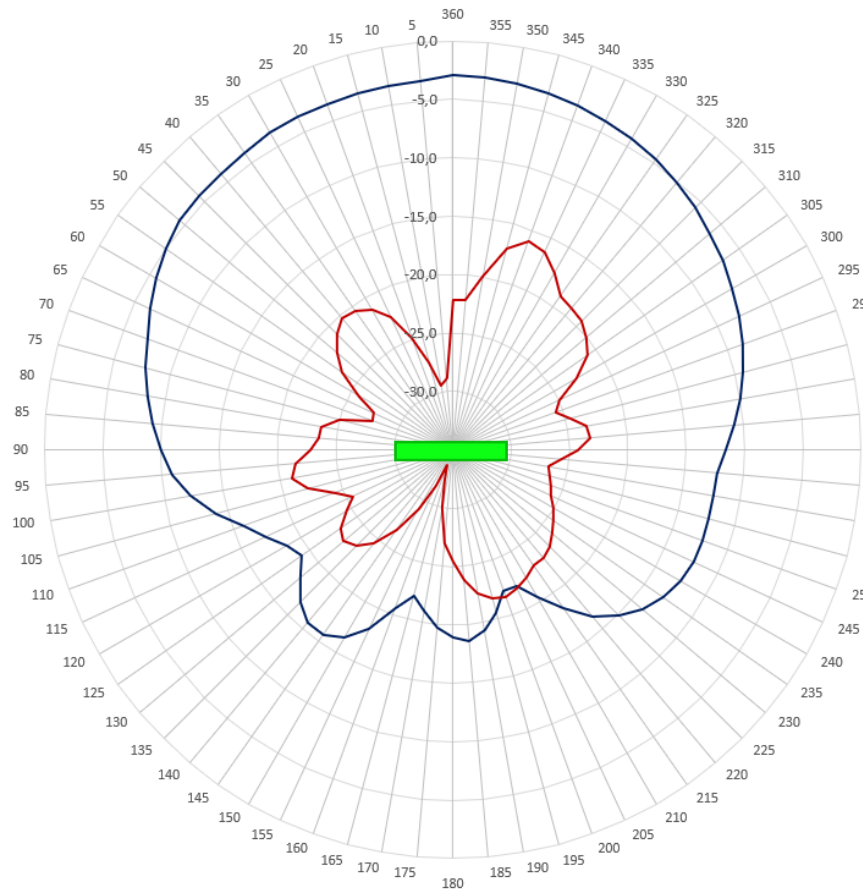


ANT 12



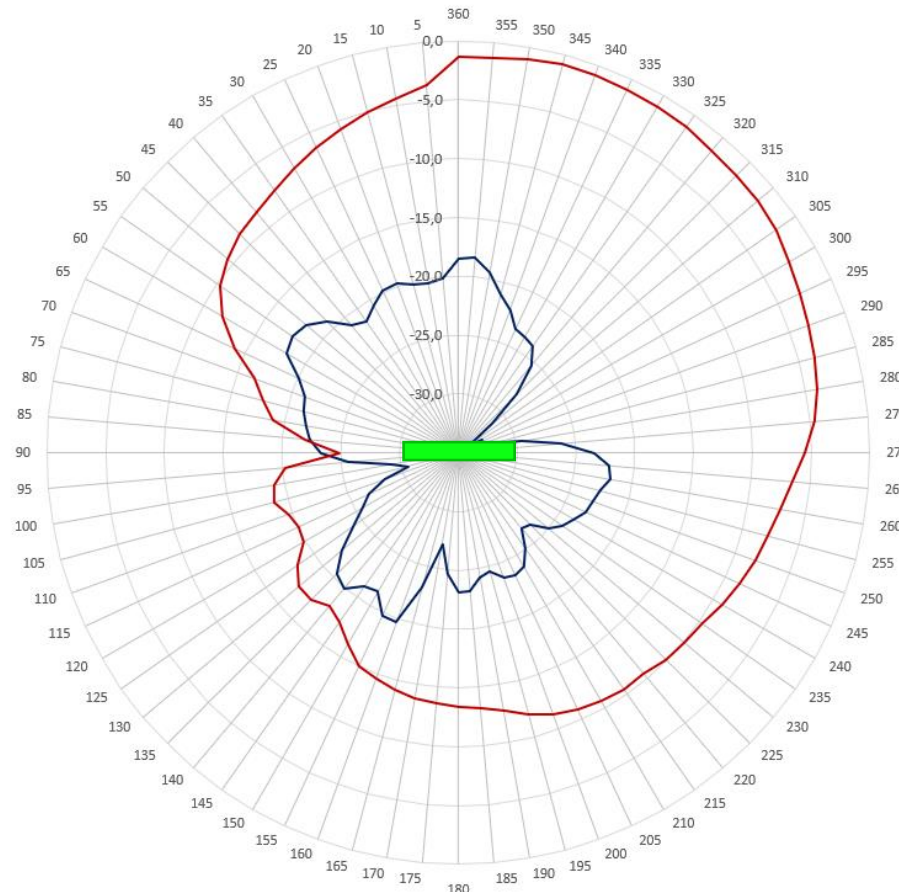
# Radiation pattern measurements in vertical position, ant 5 & 13

— Ant 5, horizontal polarisation — Ant 5, vertical polarisation

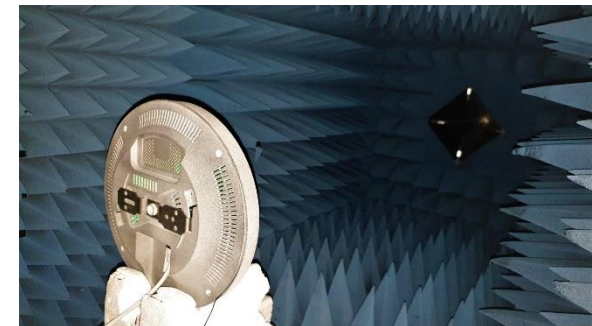


ANT 5

— Ant 13, horizontal polarisation — Ant 13, vertical polarisation

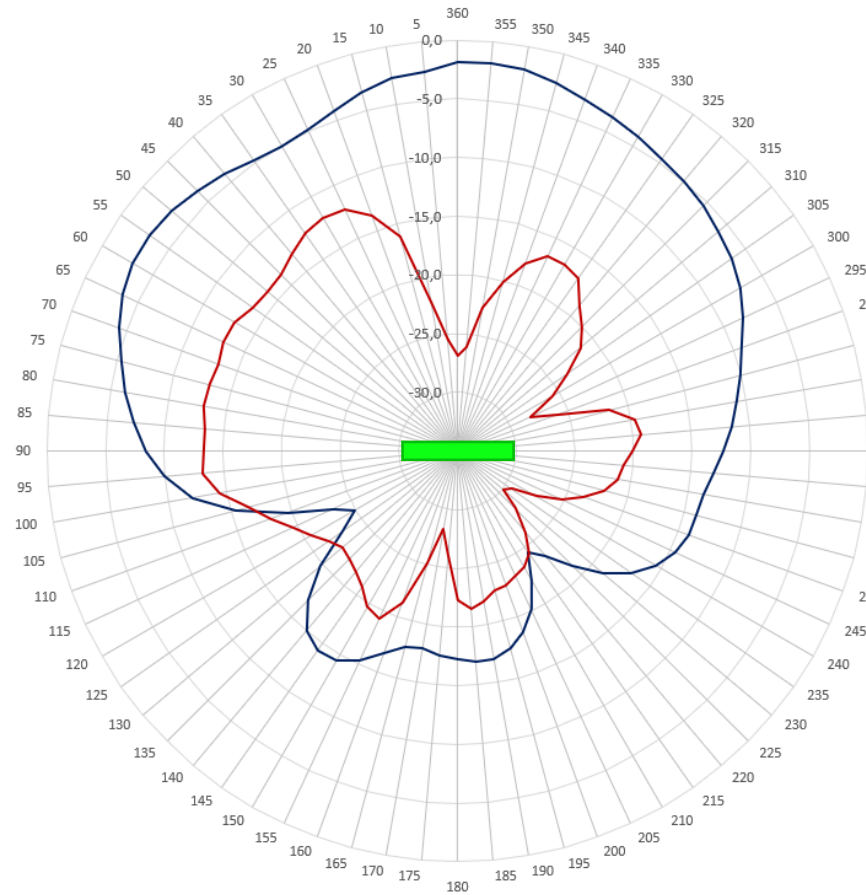


ANT 13



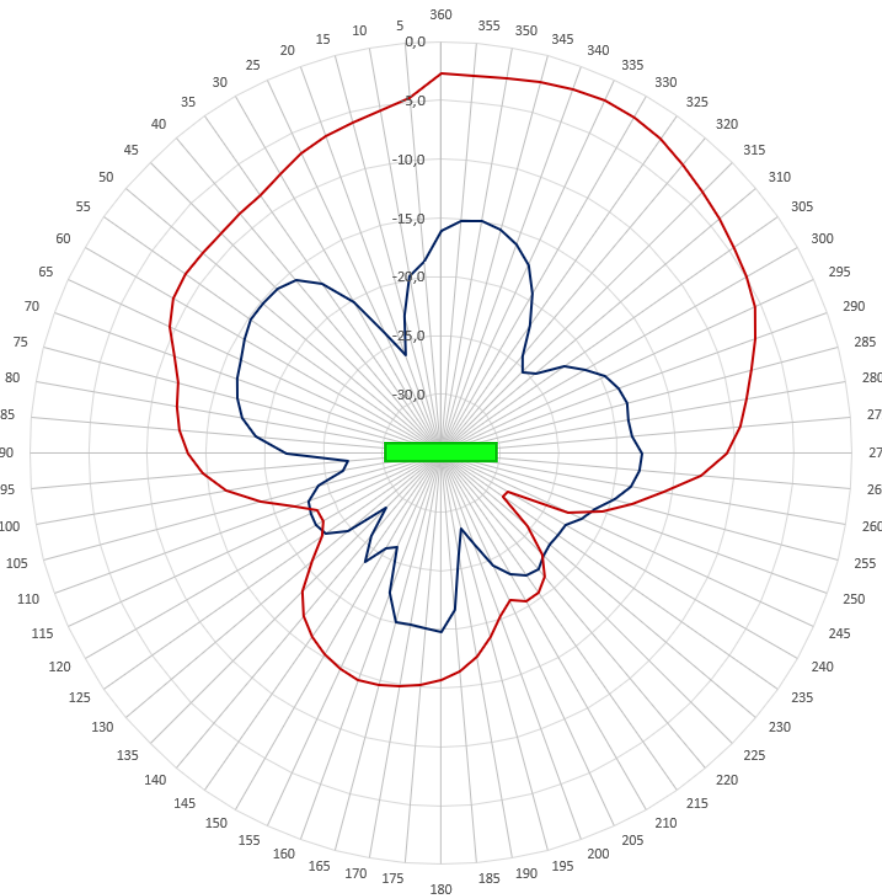
# Radiation pattern measurements in vertical position, ant 6 & 14

— Ant 6, horizontal polarisation — Ant 6, vertical polarisation

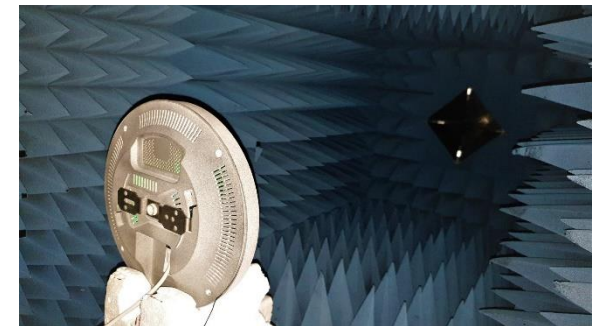


ANT 6

— Ant 14, horizontal polarisation — Ant 14, vertical polarisation

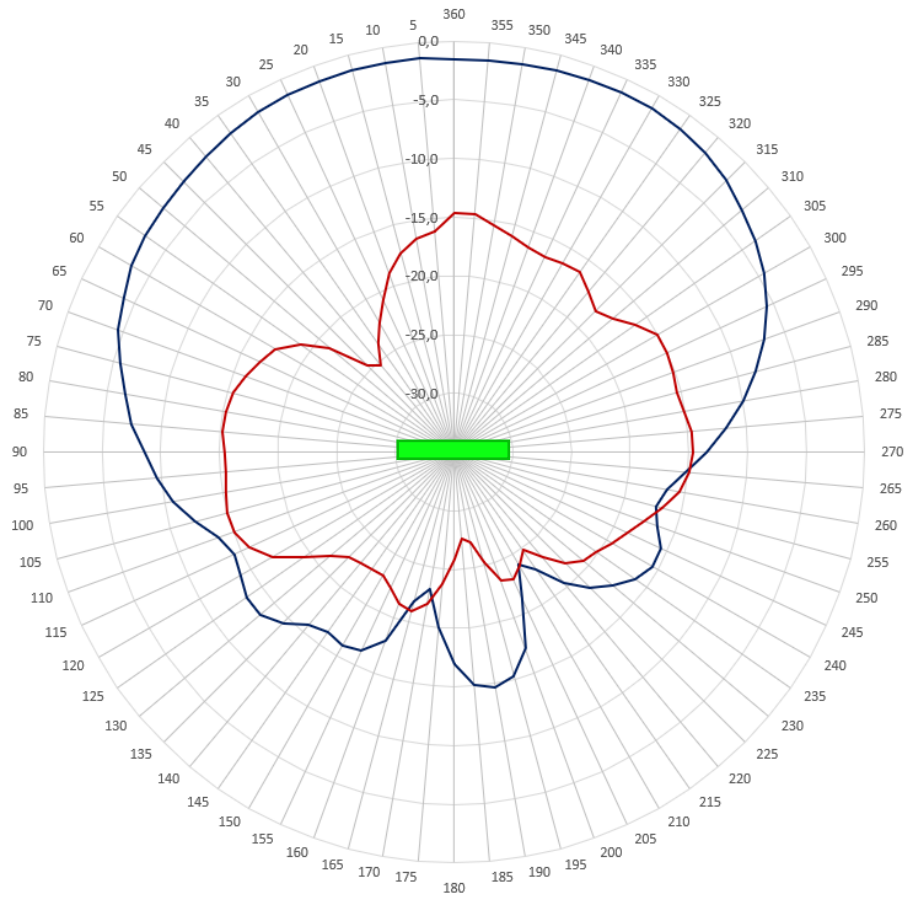


ANT 14



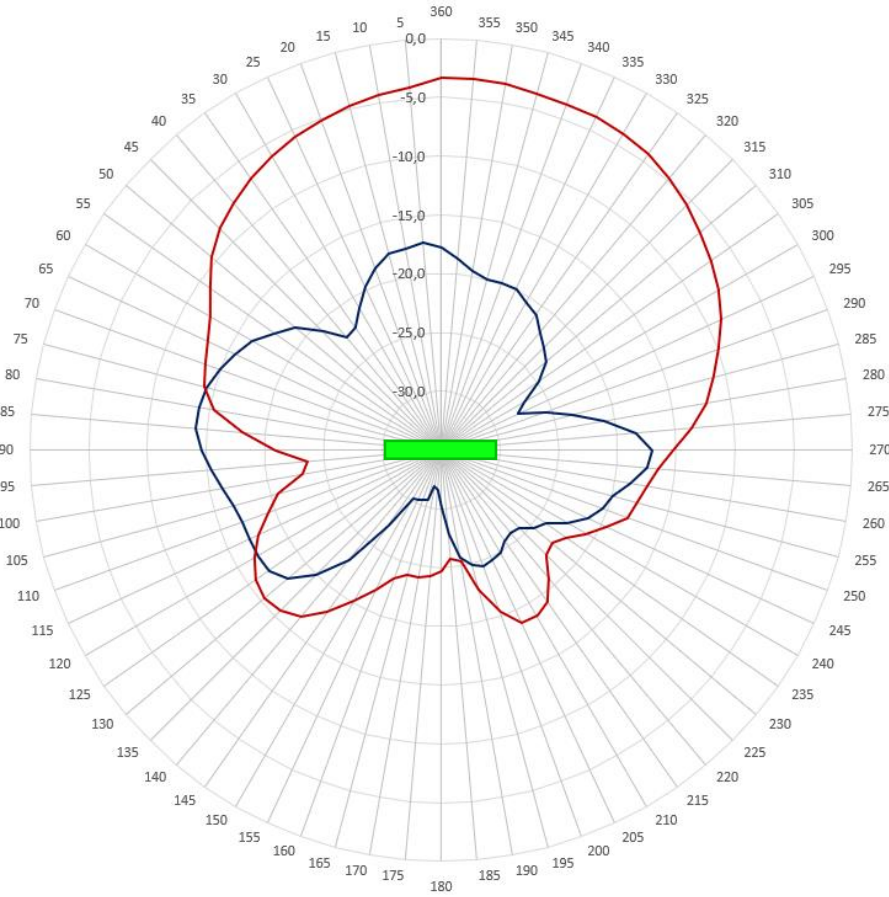
# Radiation pattern measurements in vertical position, ant 7 & 15

— Ant 7, horizontal polarisation — Ant 7, vertical polarisation

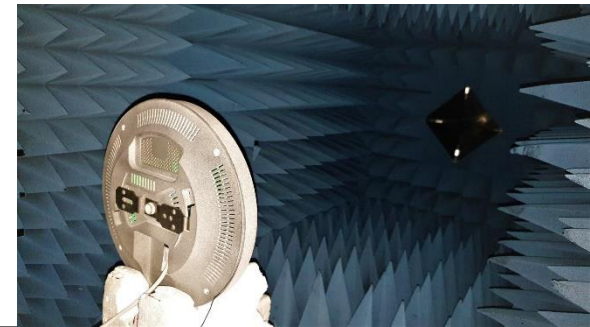


ANT 7

— Ant 15, horizontal polarisation — Ant 15, vertical polarisation

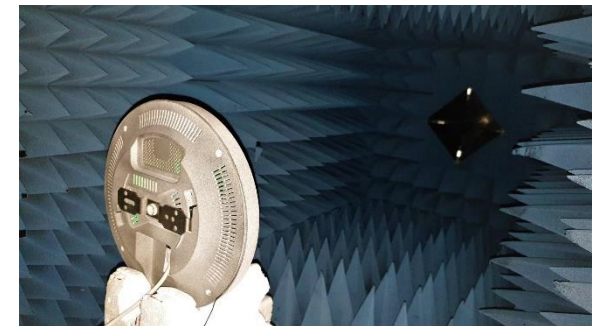
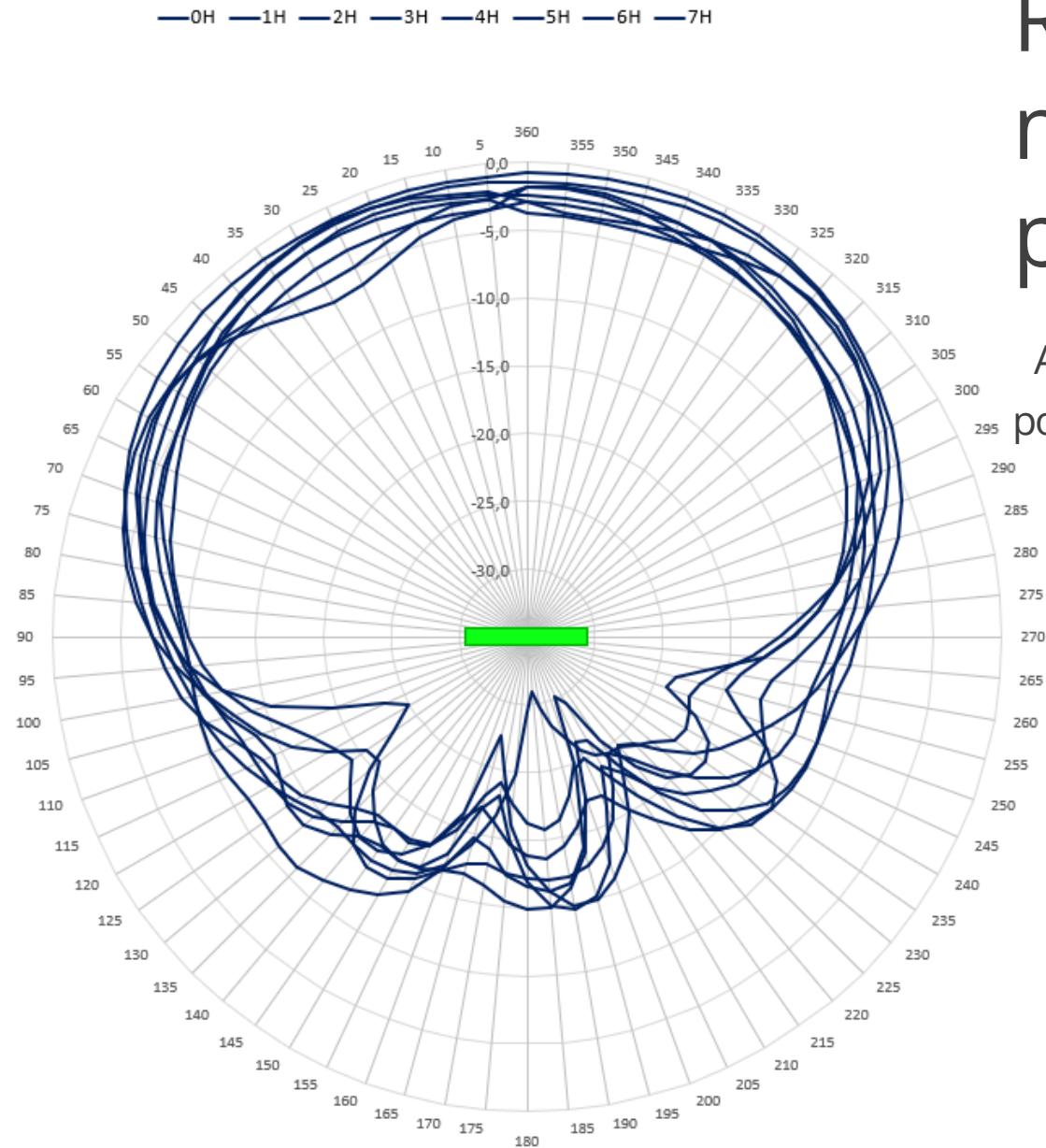


ANT 15



# Radiation pattern measurements in vertical position.

All horizontally polarised antennas (0,1,2,3,4,5,6 and 7) in horizontal polarization.



# Radiation pattern measurements in vertical position.

All vertically polarised antennas (0,1,2,3,4,5,6 and 7) in vertical polarization.

