Project: IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs)

Submission Title: Measured wave propagation characteristics under KIOSK use case
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Abstract: This document presents measured wave propagation characteristics under KIOSK use case.

Purpose: Contribution towards developing a model of KIOSK Downloading case in CMD.

Measured wave propagation characteristics under KIOSK use case

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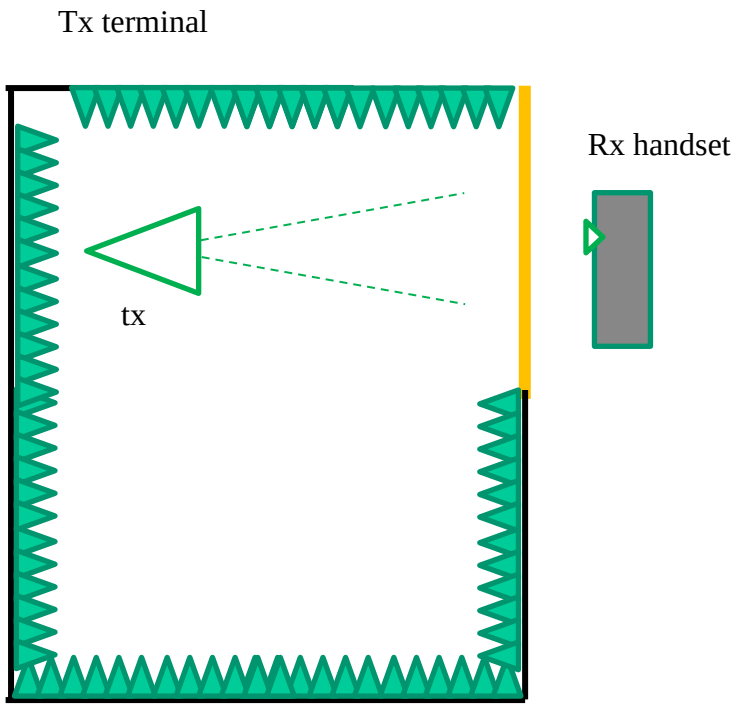
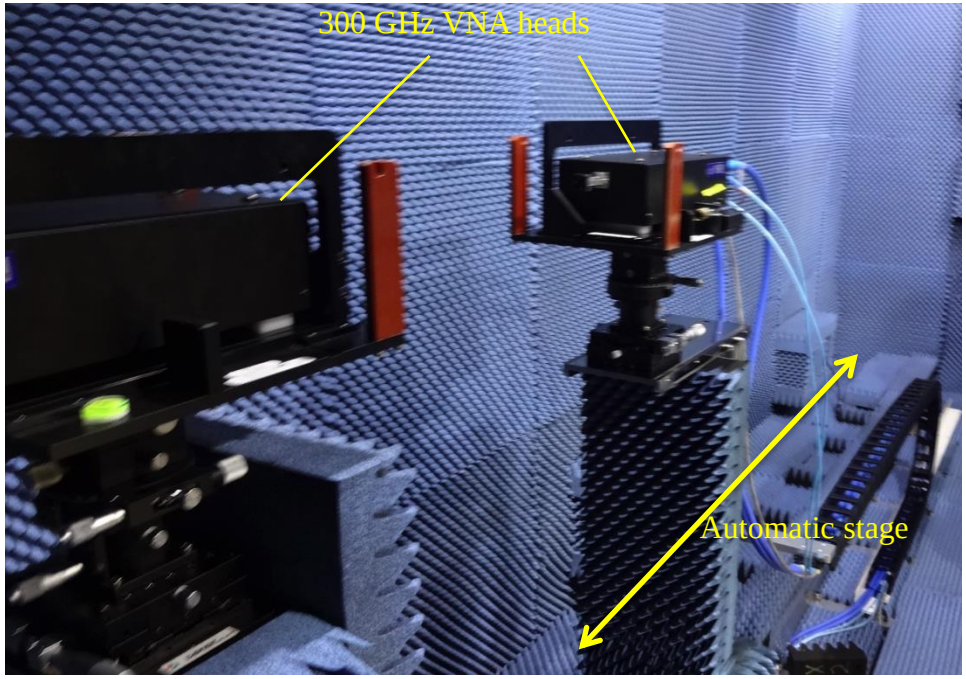
Wave propagation in KIOSK



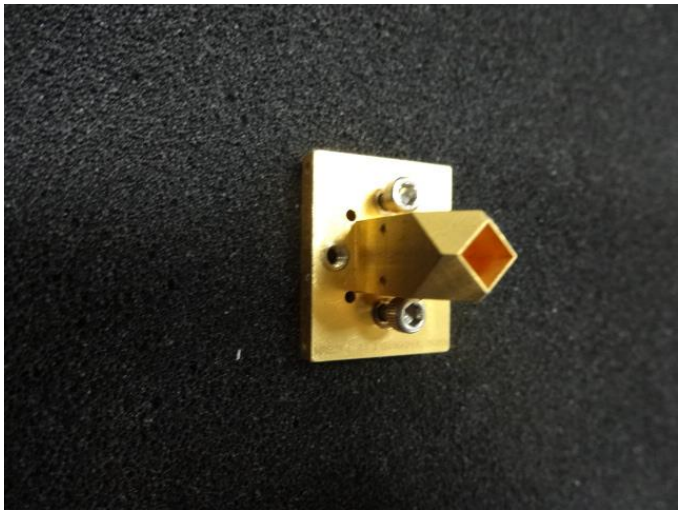
- Pear-to-pear link
- High gain antennas in pretty well-controlled environment (Tx)
- Relatively short distance (< 1 meter)

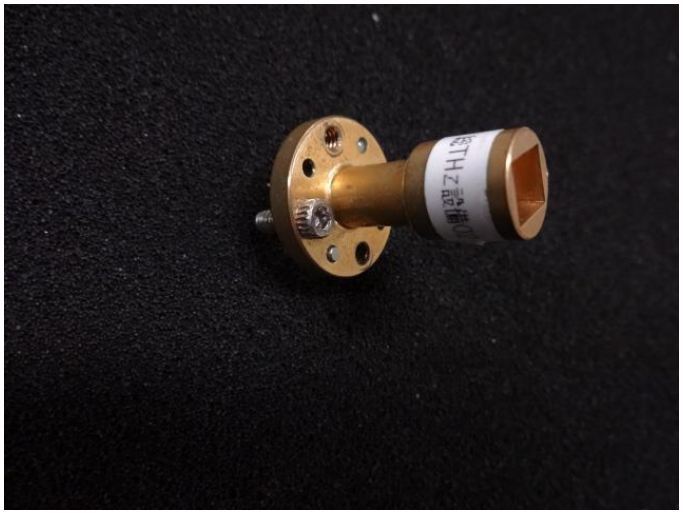
Experiments



- 2-port calibrated VNA in 220 ~ 340 GHz
- 2 kinds of 25-dBi gain antenna
- Link distance up to 1.8 m

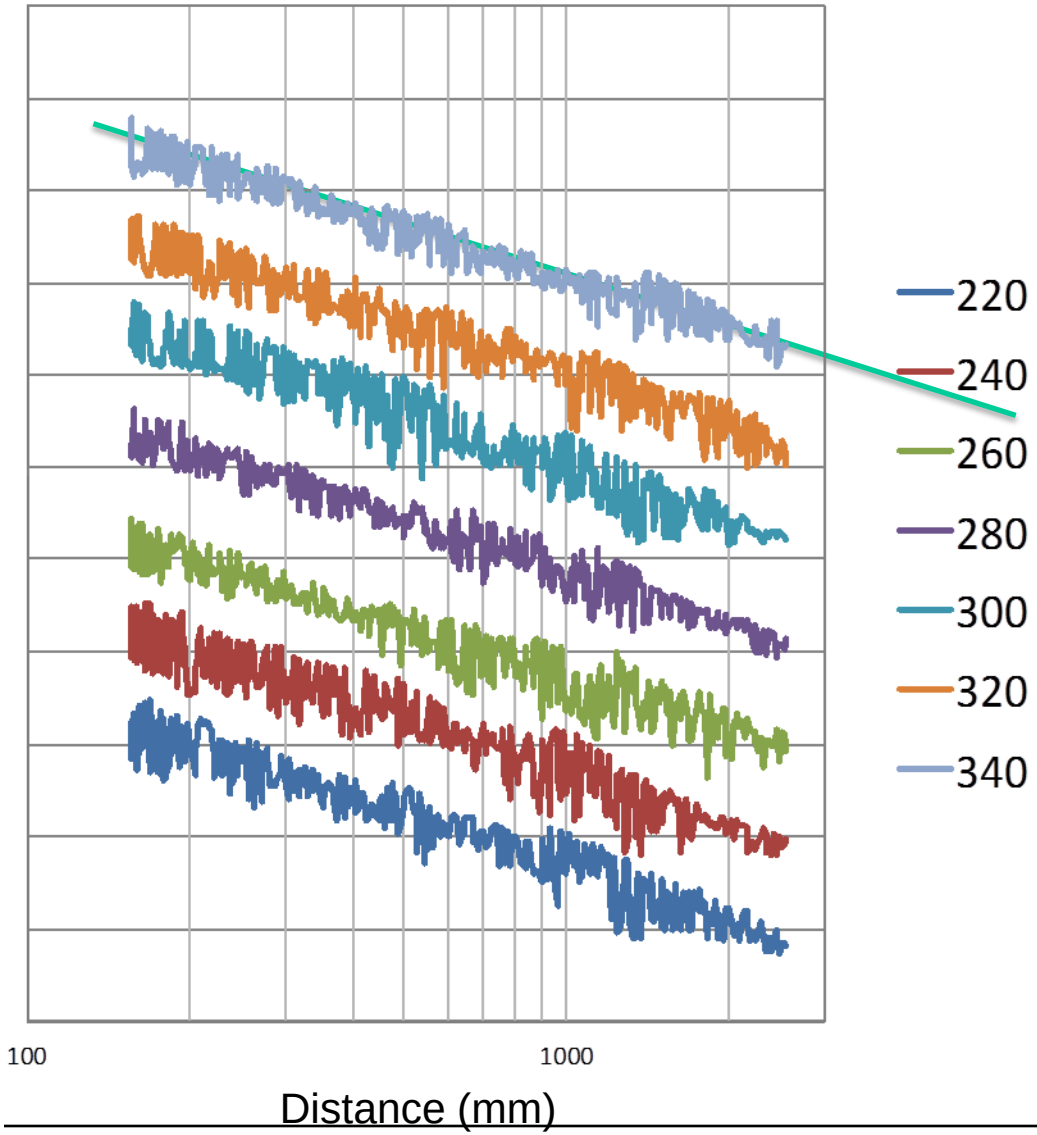
Antennas





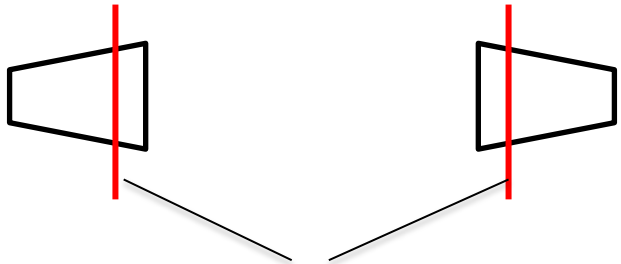
25-dBi gain antennas

Free space path loss

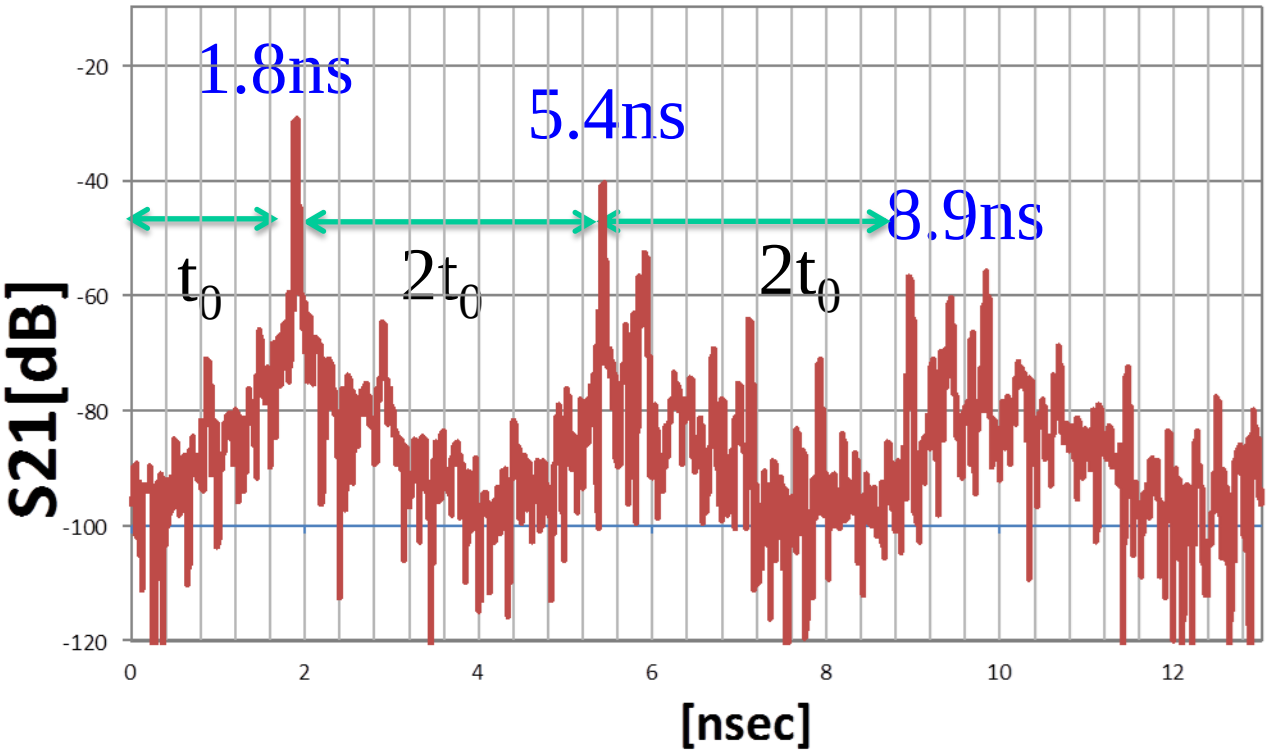


- 500 point/dec
- Loss exponent: 1.8 ~ 2.2
- Power variation: max. ±2.5 dB

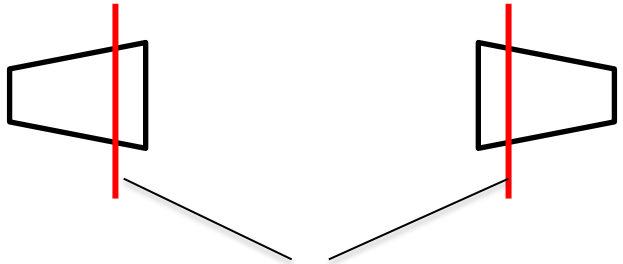
Power delay profile

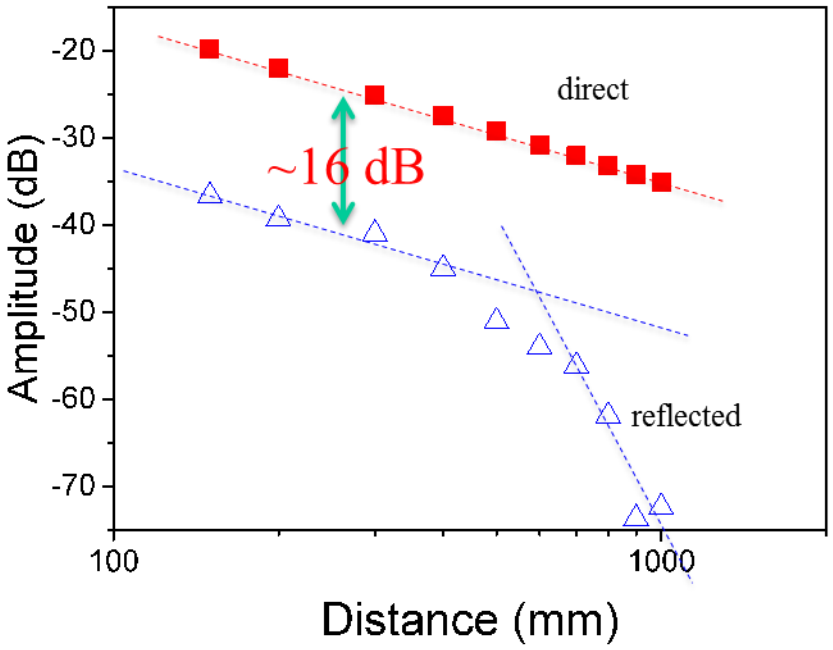


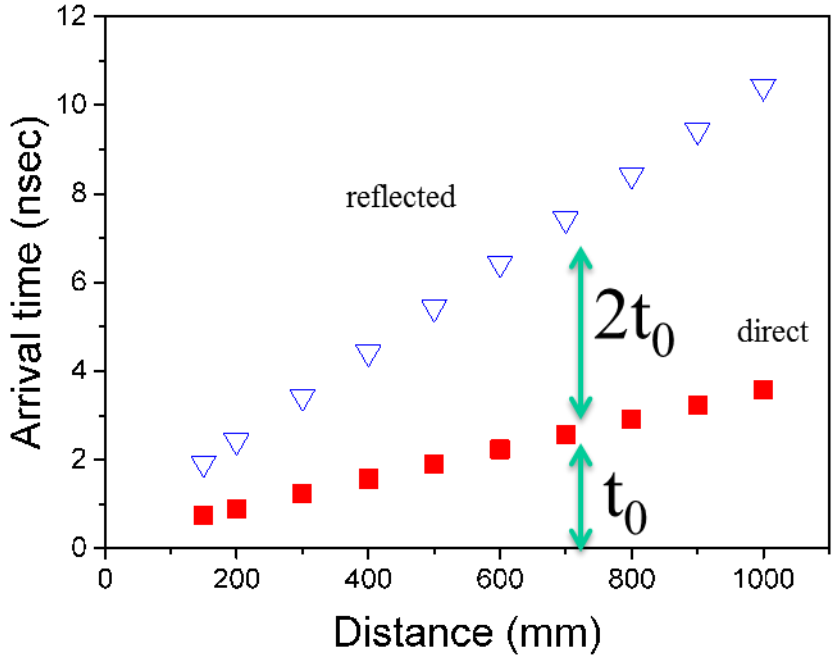
Metal plate (20x20cm^2)



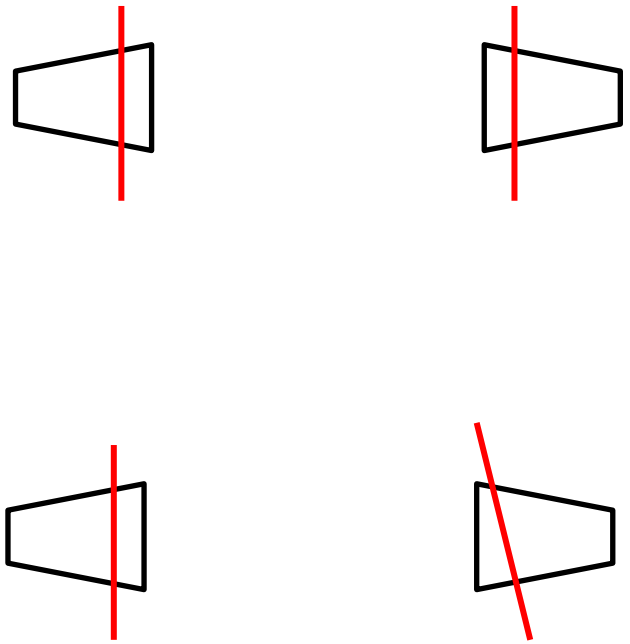
Power delay profile

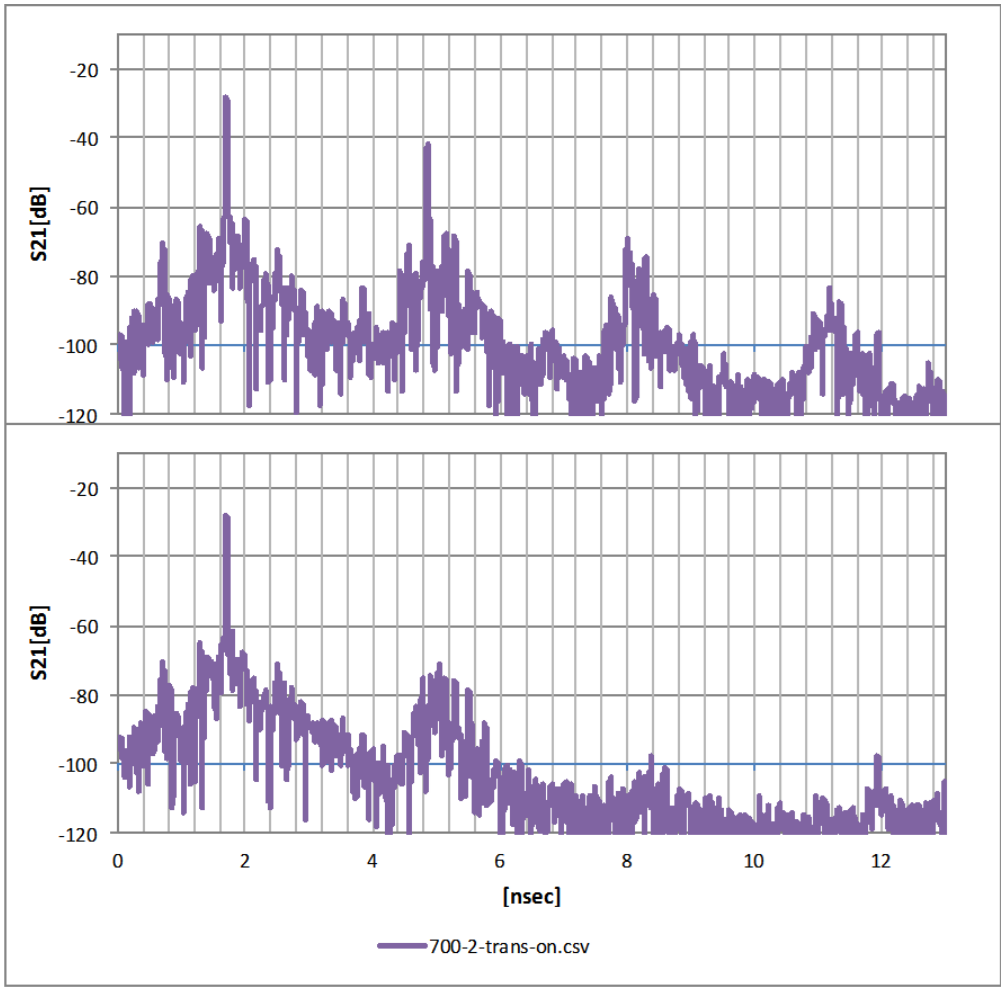




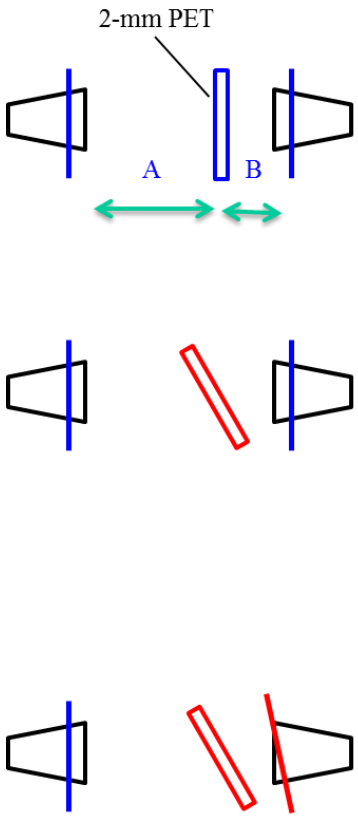


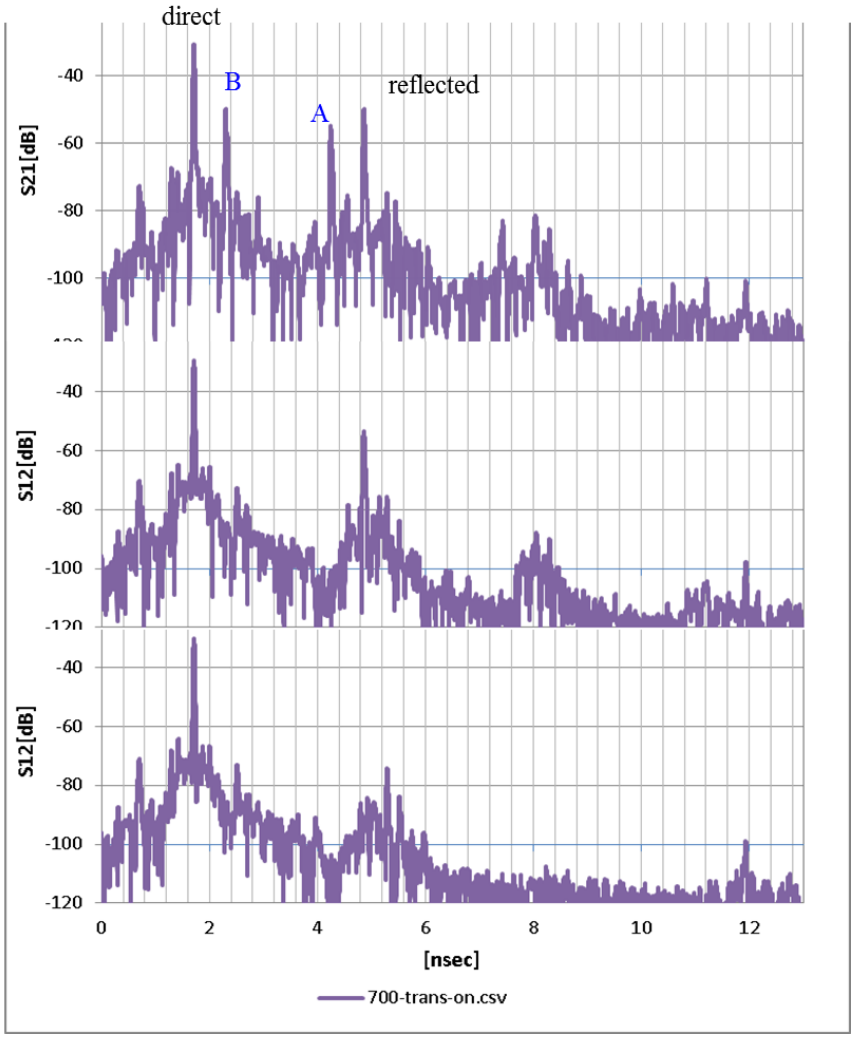
Suppressing reflection (1)



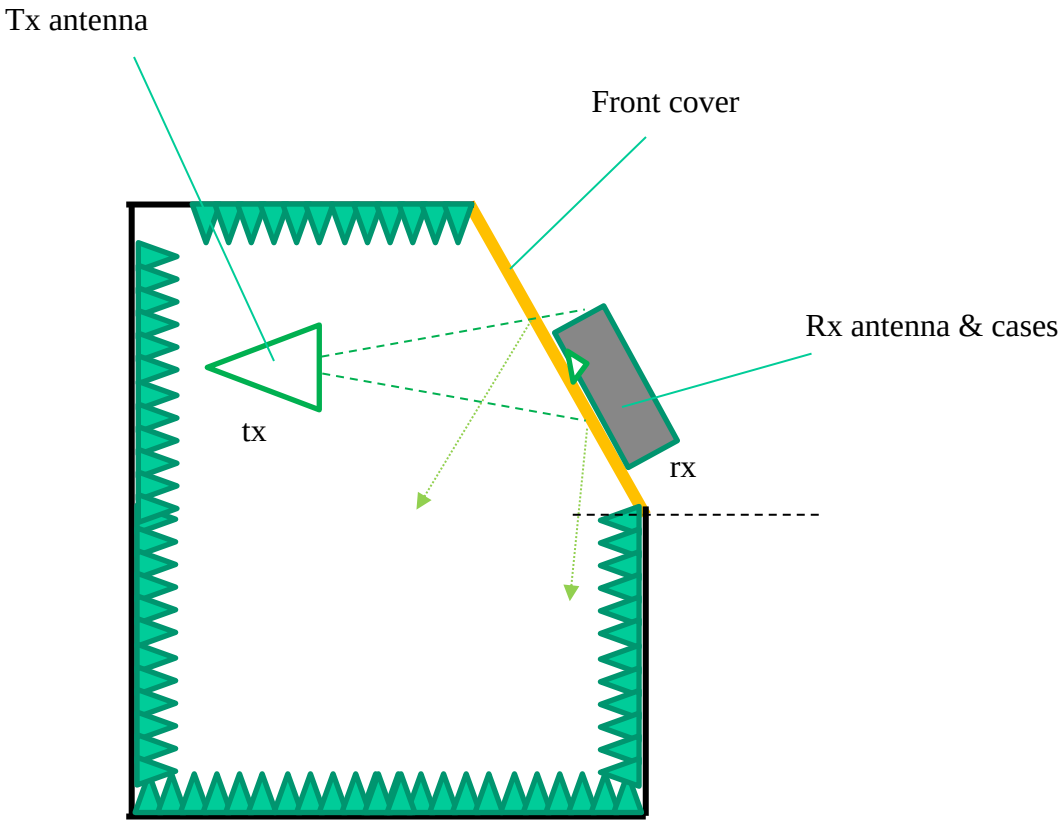


Suppressing reflection (2)





Potential KIOSK system



Acknowledgement

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