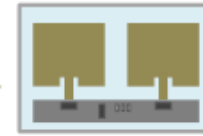


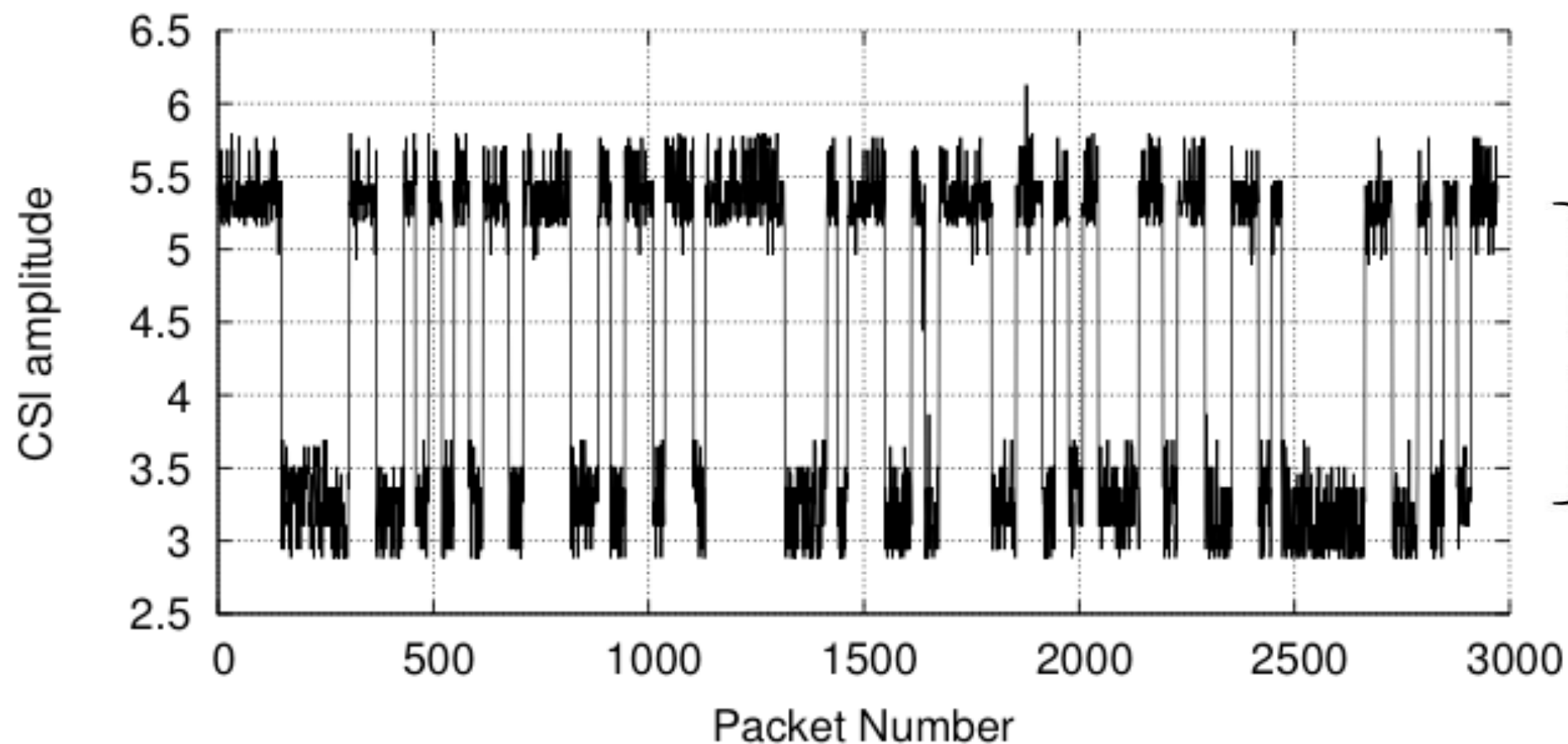
Design



Uplink communication - from tag to reader

*This is achieved by a low power switch
that controls the antenna impedance*

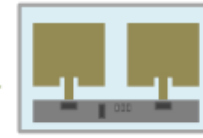
- Key idea: change the amount of signal that is reflected by the tag -> change the CSI -> code the info into CSI amplitude



the contrast of
The radar
cross-section

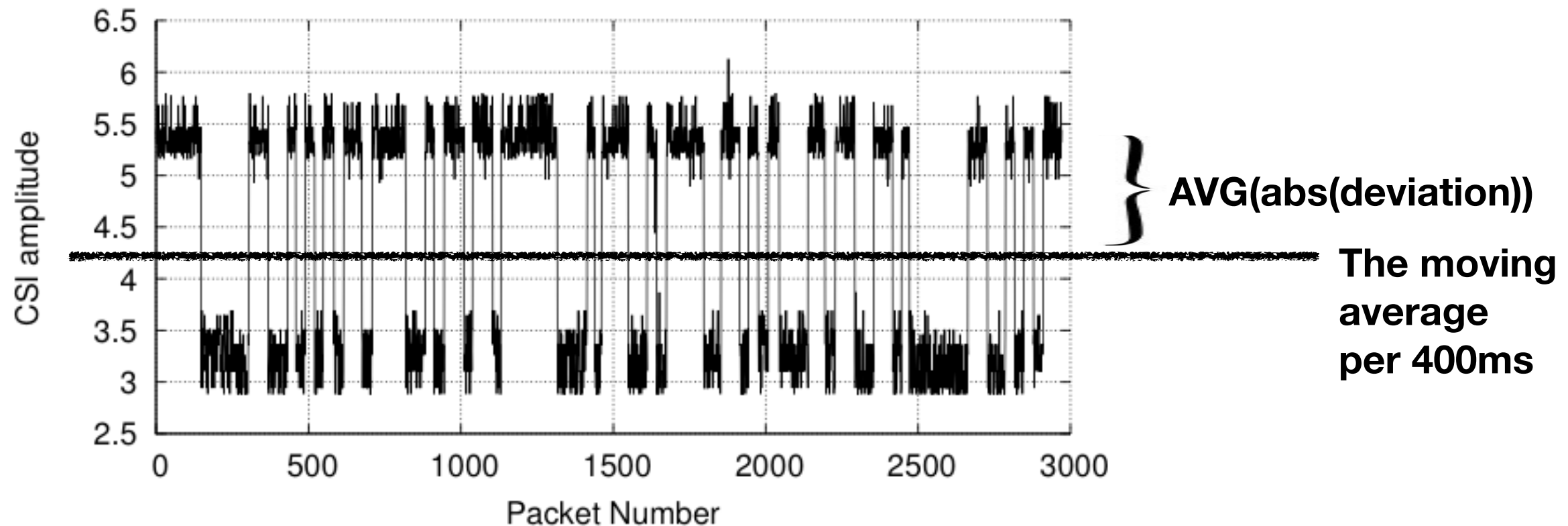
Fully reflect
vs
Not reflect

Design



Uplink communication - from tag to reader

- Then how the reader interprets those data coded inside of the CSI amplitude?
- Step 1: normalization (or Signal Conditioning in the paper)



$$\text{normed_value} = (\text{CIS_measurement} - \text{the_moving_ave}) / \text{abs_dev_ave}$$