

## Optically controlled reconfigurable antenna for 5G future broadband cellular communication networks - DTU Orbit (09/11/2017)

### Optically controlled reconfigurable antenna for 5G future broadband cellular communication networks

This paper presents an optically controlled reconfigurable antenna for millimetre-wave frequency range. Silicon switches are used to control the optical reconfiguration, modifying the frequency response and radiation pattern of the antenna design. Therefore, the system can switch between the lightly licensed 28 GHz and 38 GHz frequency bands, useful for future mobile 5G broadband cellular communication networks. Experimental results with the reconfigurable antenna on 16-QAM and 32-QAM wireless transmission supported by photonic downconversion are successfully reported under 78 dB link budget requirement.

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