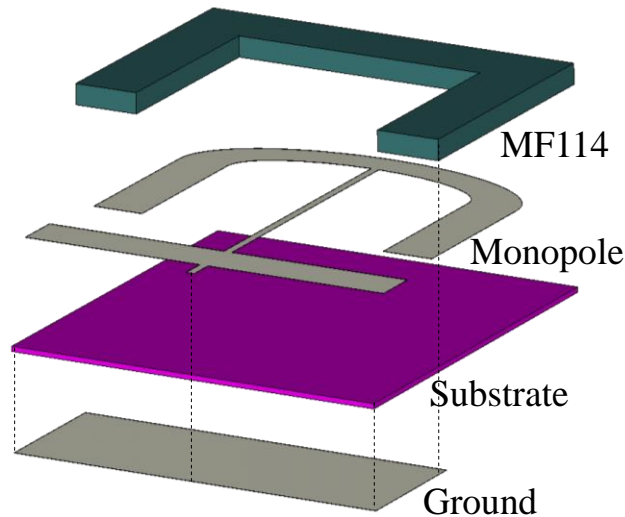


Miniaturised UHF Antenna using a Magneto-dielectric Superstrate for M2M Communications

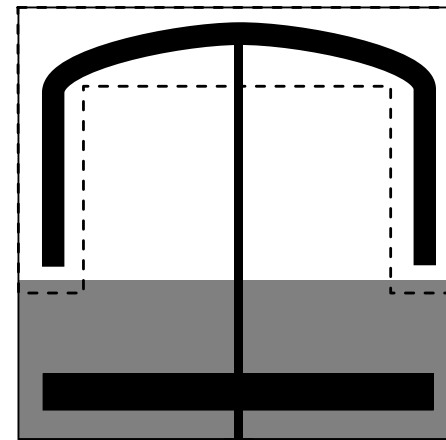


Qianyun Zhang

- Use superstrate to reduce antenna dimension and enhance its bandwidth
- Arc-shaped top fully can utilize space and introduce capacitance between radiator and ground
- A stub is added to improve impedance matching



Layered graph

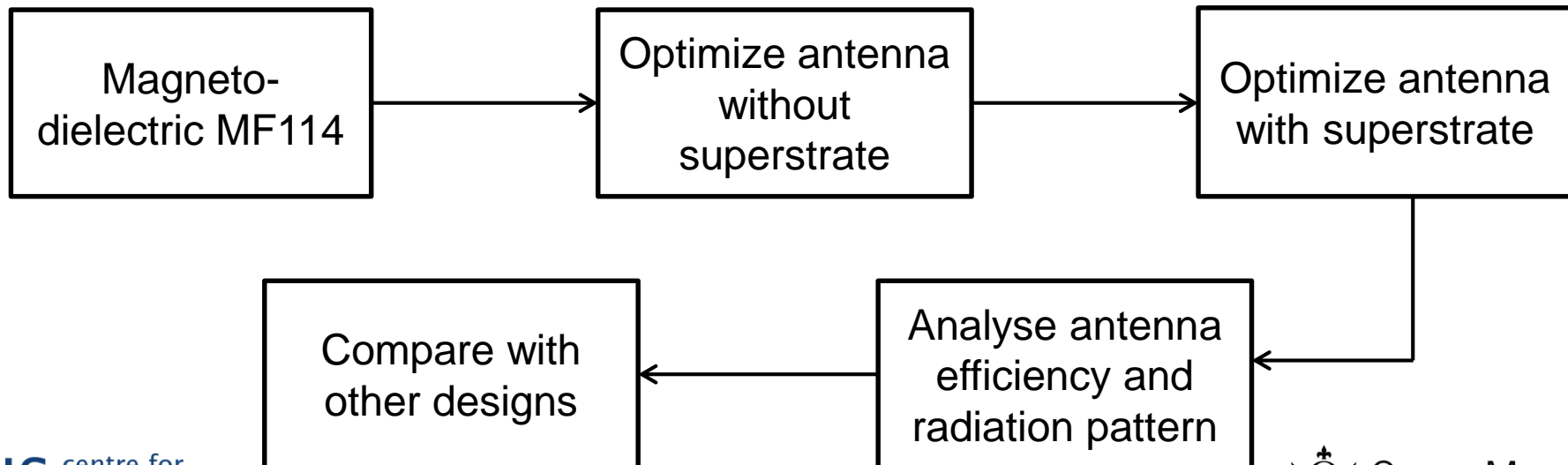


SMA connector

Top view Layout

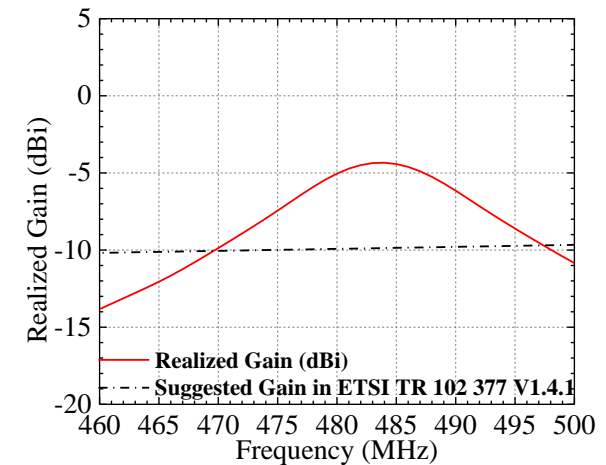
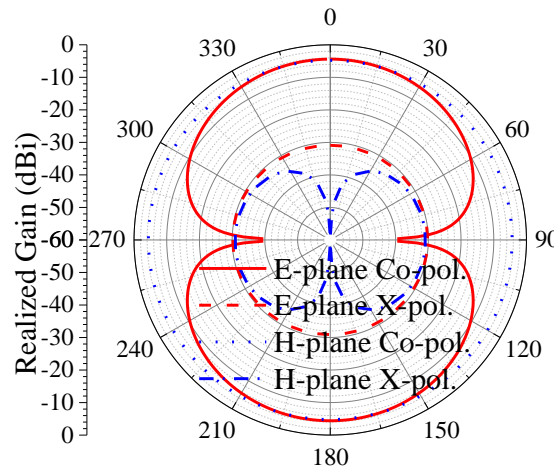
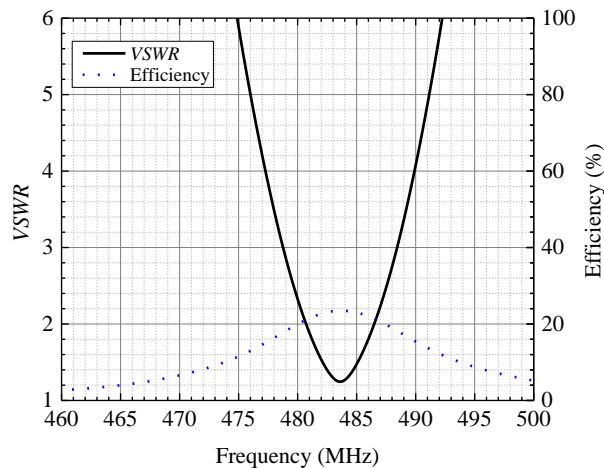
Antenna using magneto-dielectric as supersaturate

- Superstrate material selection
- Antenna design
- Compared with another designs working at similar frequency and antenna without superstrate



Results and conclusion

- Resonant frequency: 484MHz
- Omnidirectional radiation pattern on H-plane
- Bi-directional radiation pattern on E-plane
- Realized gain at center frequency: -4.4dBi
- According to ETSI TR 102 377 V1.4.1, the frequency band with gain greater than the suggested one is about 27MHz from 470MHz to 497MHz



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