**CONTENT**

1. The Dual-Band Active Frequency Selective Surface. *(The PIN diodes can be independently controlled)*
2. The transmission line model of the AFSS. *(The equivalent circuit models of the AFSS.)*
3. The AFSS independently achieve transmission or reflection. *(By changing the states of PIN diodes can help to achieve the transition between transmission and reflection of the AFSS in C-band and X-band.)*

**DESIGN AND RESULTS**

1. The Dual-Band Active Frequency Selective Surface.

   Metallic layers + Dielectric layers + PIN diodes

   **Element dimension:** 12mmX12mmX5mm

   **Two metal patch structures**

   These patch structures have two different resonant points.

2. The transmission line model of the AFSS.

   **Get the equivalent according to the AFSS structure**

   **Two Equivalent circuit models of the PIN diode**

   By assigning different switching states of the PIN diodes, the AFSS can realize either transmission or reflection with less than 2dB loss at 5.8 - 6.8 GHz and 9.5 - 10.6 GHz.

**CONCLUSION**

The AFSS proposed can dynamically switch between transmission state and reflection state in C-band and X-band.