

The Test Report of Ultra Gaussian Horns

List

| | |
|---|---|
| 1.Test purpose | 2 |
| 2.The layout of the far field test range..... | 2 |
| 3.Test results | 3 |

1. Test purpose

To verify the performance of Ultra Gaussian Horns designed by Thomas Keating Ltd, the far field measurement was carried out to evaluate the co-polar pattern of the horns.

2. The layout of the far field test range

The layout of the far field test range used is shown in the pictures below. The ultra Gaussian horns under test are fixed on a turning table, and the source antenna is set on the other platform with the same height.



Fig. 2.1 The layout of the far filed test range

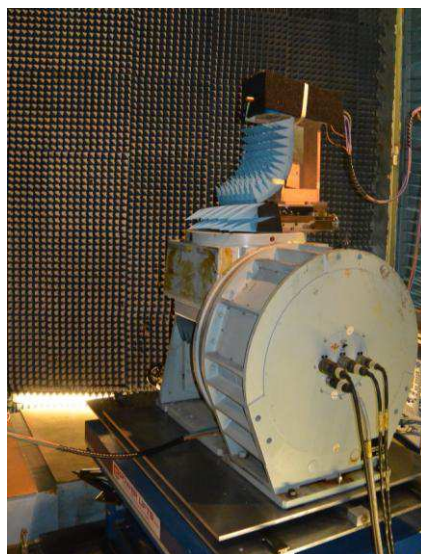


Fig. 2.2 The ultra Gaussian horn on the turning table



Fig. 2.3 The source antenna on the high platform

3. Test results

Because there is not appropriate signal source, the 183GHz horn is tested at 175GHz and the 340GHz horns are tested at 323GHz.

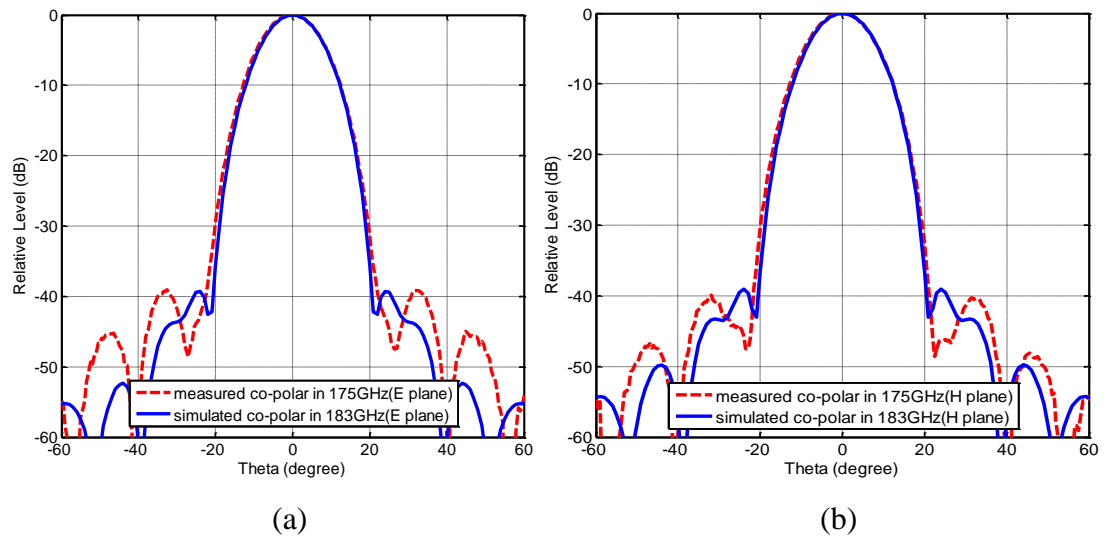


Fig. 3.1 The test and simulation results of the 183GHz horn

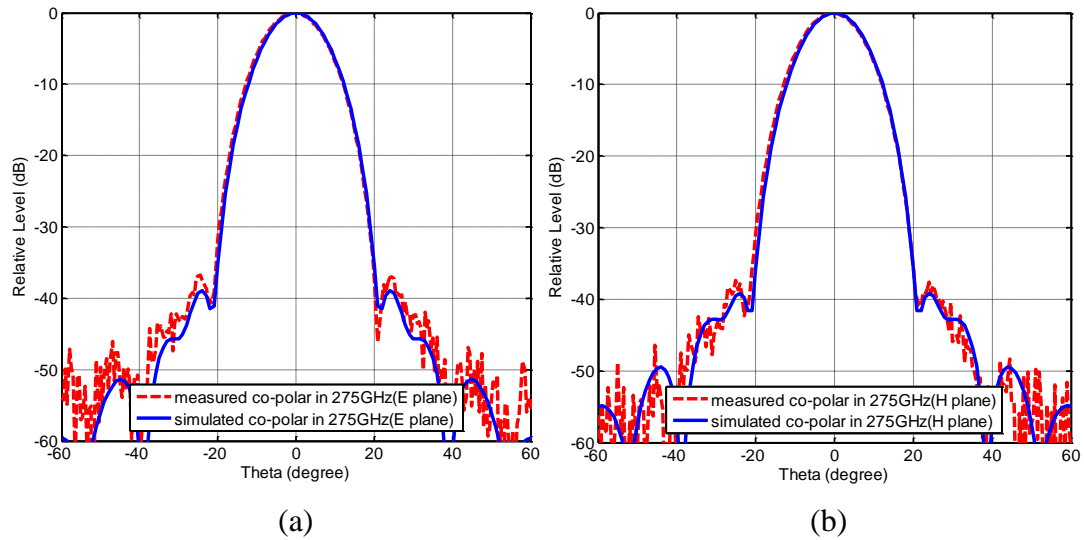


Fig. 3.2 The test and simulation results of the 275GHz horn

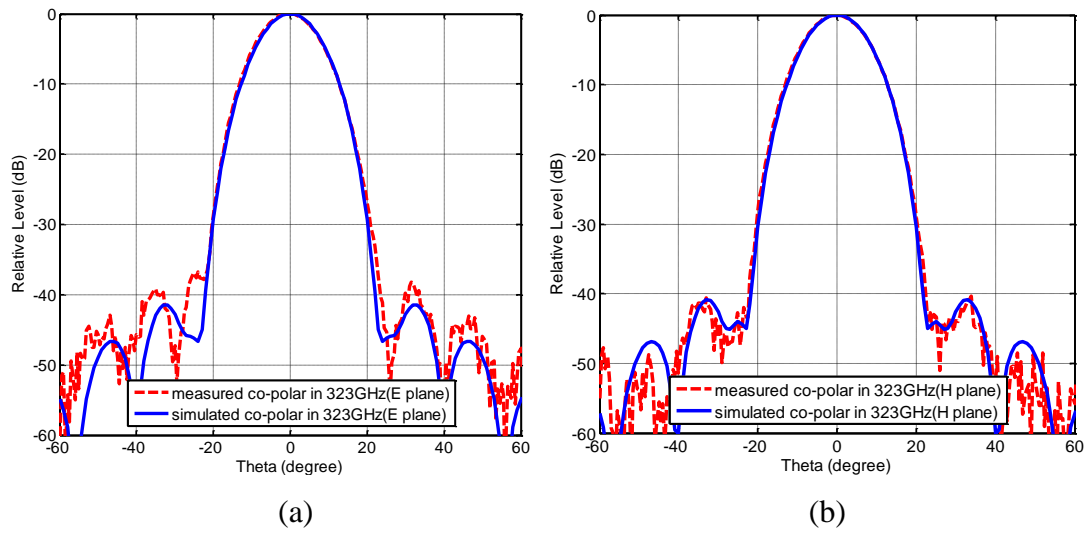


Fig. 3.3 The test and simulation results of the 340GHz_WR2.2 horn

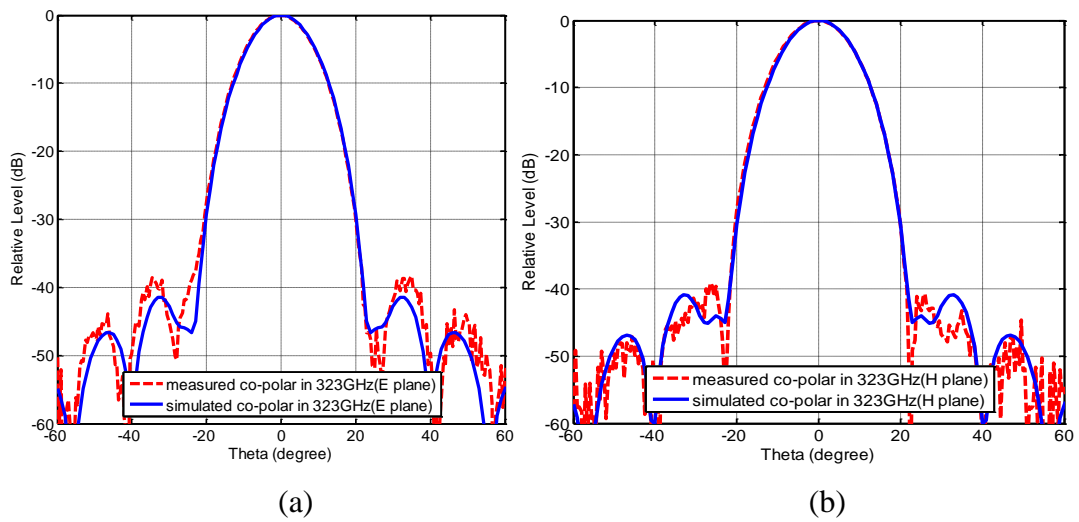


Fig. 3.4 The test and simulation results of the 340GHz_WR3.4 horn

Considering the measurement error, the correspondence between the

measured results and the simulated results is very well, especially the main lobe. The performance of these ultra gaussian horns is impressive.