

Extended 23 cm Septum feed for $f/d = 0,8$

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The Septum feed OK1DFC [1] is designed for deeper mirrors $f/d = 0,4 - 0,5$. The subject of the design is the extension of this feed by a horn so as to narrow the radiation for $f/d = 0.8$. The mirror is Prodelin 1,8 m offset dish with $f/d = 0,8$.

L = 400 mm; A = 335 mm, B = 270 mm

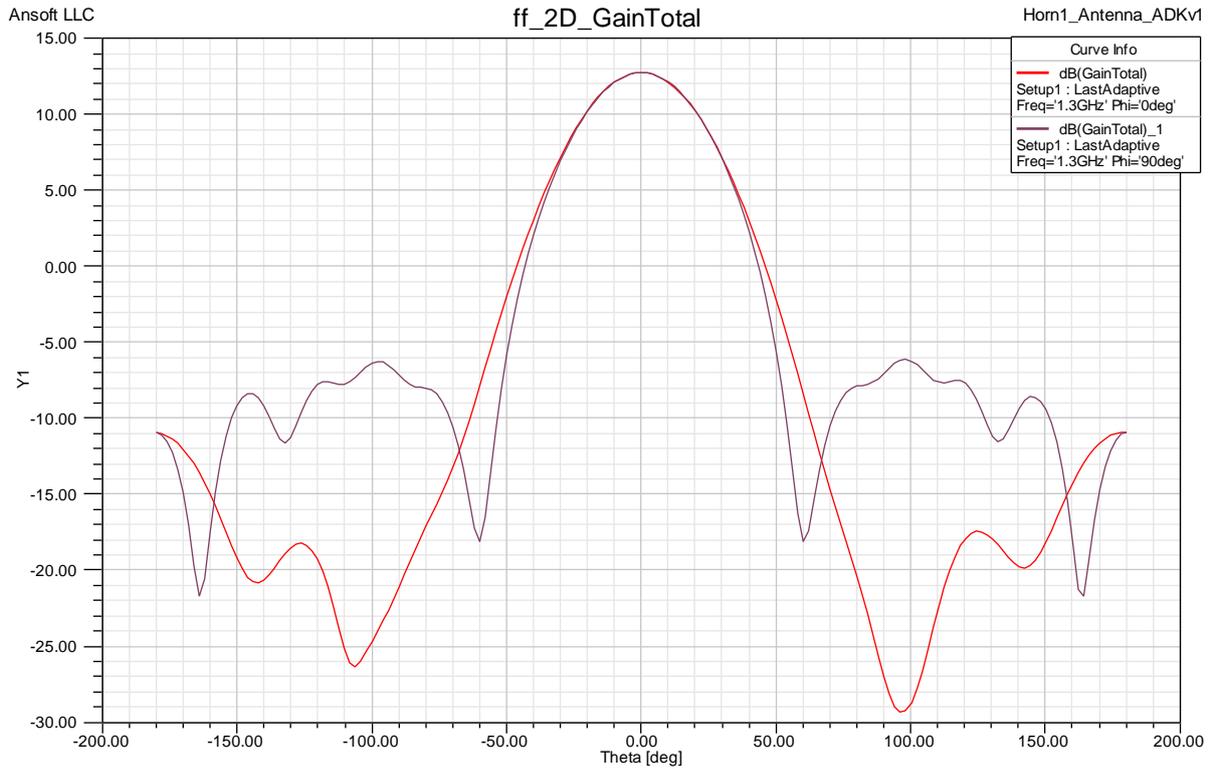


Fig. 1. Radiation pattern of the extended septum feed by horn.

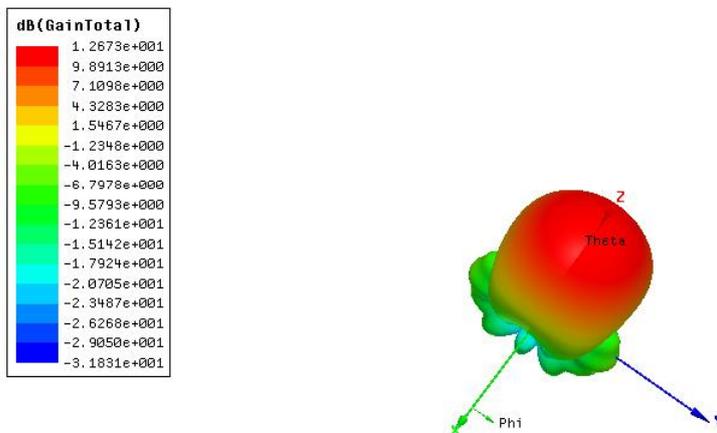


Fig. 2. 3D radiation pattern of the extended septum feed by horn.

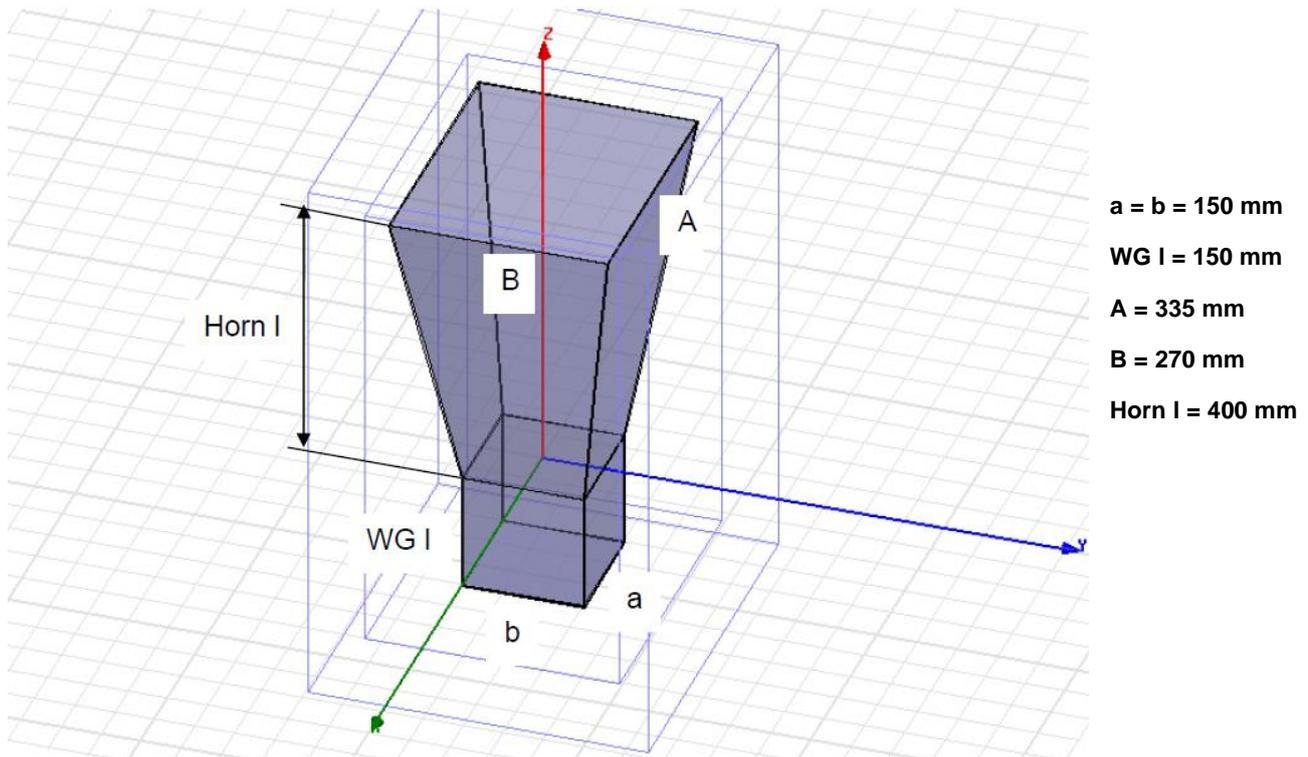


Fig. 3. Size of the horn.



Fig. 3. 1,8 m offset dish with the designed feed.

The tested antenna has parameters corresponding to the calculation. SN / CS is about 7 dB at SFU = 70.

[1] <https://www.ok1dfc.com/eme/emeweb.htm#Septum>