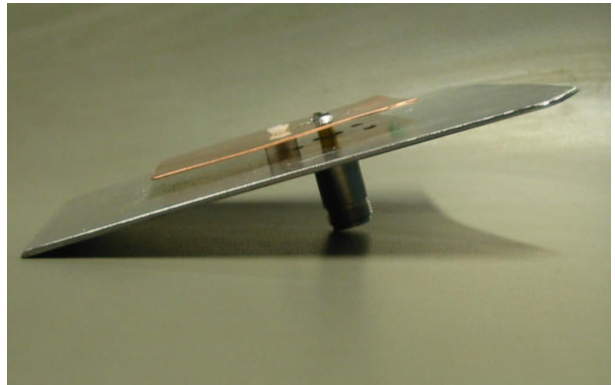
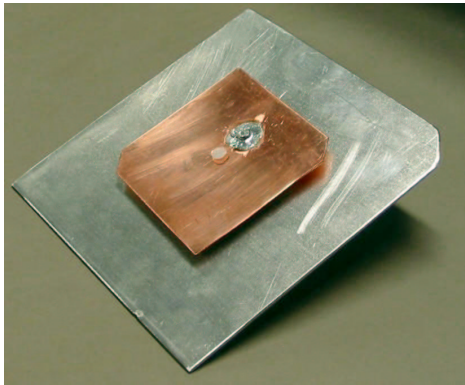


PATCH ANTENNA FOR A GPS RECEIVER

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This antenna design is RHCP truncated patch antenna for 1575 MHz (GPS). Gain of the antenna is approximately 7 dBi (> 4 dBd) and the 3 dB beam width is approximately 60 degrees. The axial ratio of the antenna is typically better than 1,5 dB.



The antenna construction and theory is explained in Finnish article only. The English version is provided as informational supplement only.

The material is 2 mm thick aluminium sheet as a reflector and 1 mm thick copper plate as a radiator. Size of the reflector could be larger as specified. Connector was Suhner N-female connector, but any other type of connector could be used (adjust drilling positions and sizes).

All units in the drawings are in millimeters.

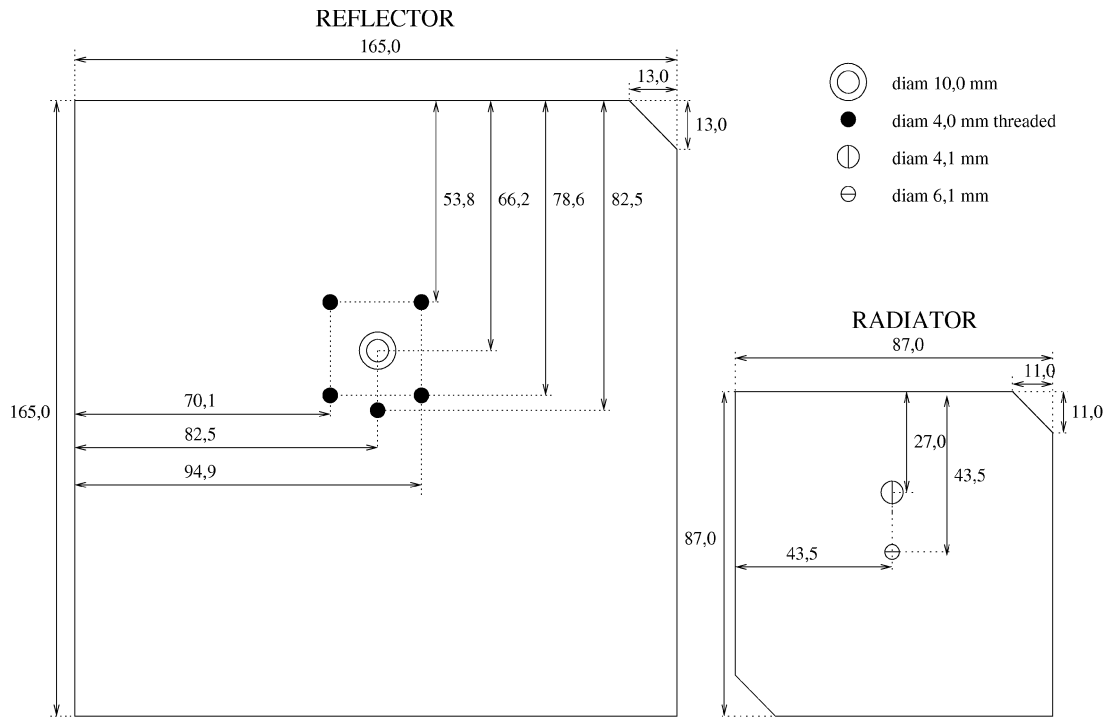


Illustration 1. Element drawings in millimeters.

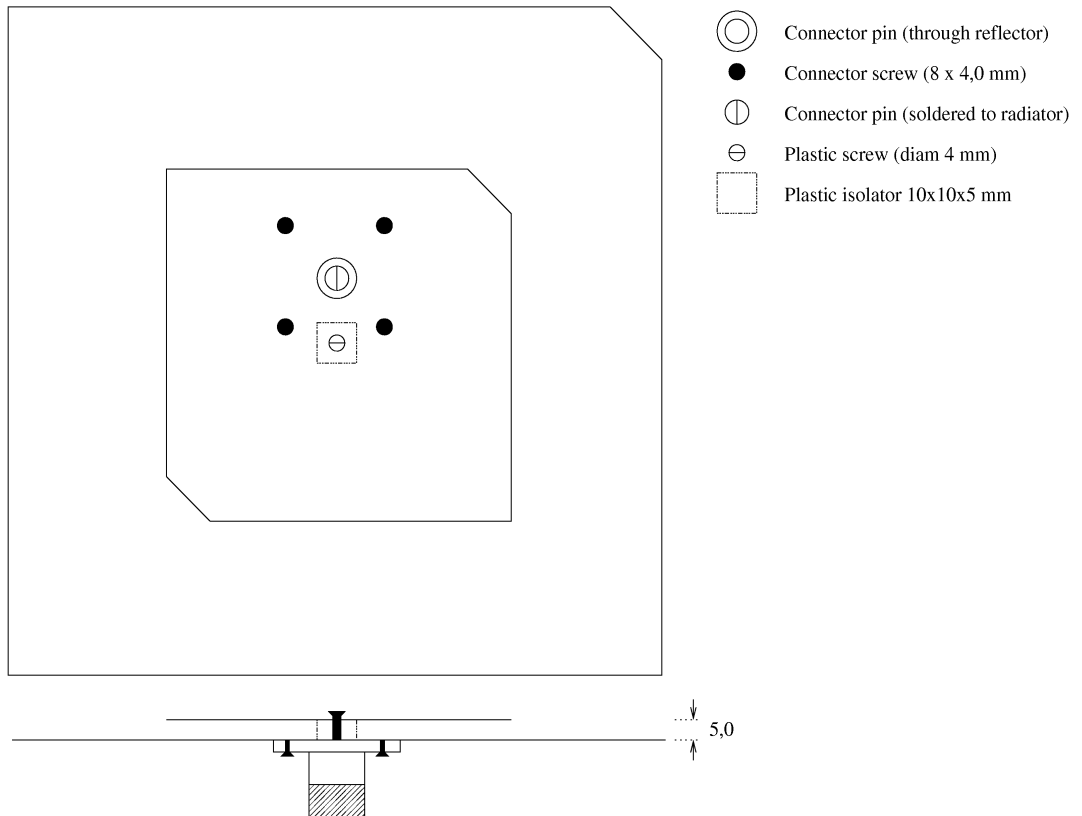


Illustration 2. Build up of the antenna, all units in mm.

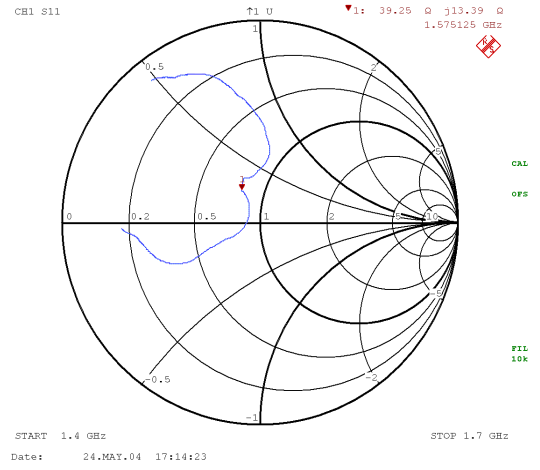
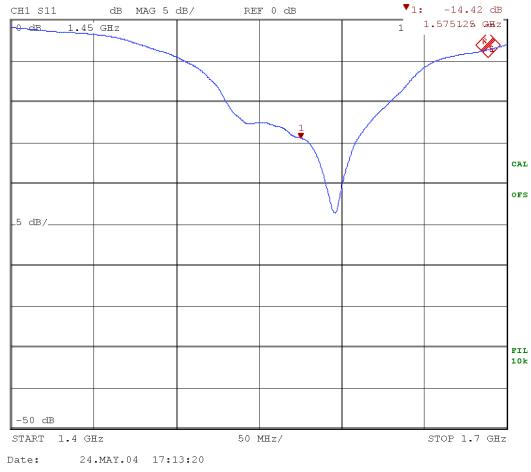


Illustration 3. S11-plot of the antenna.

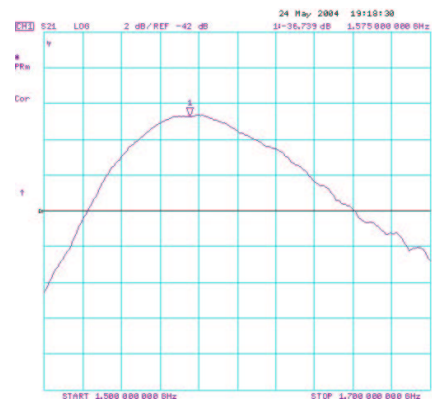
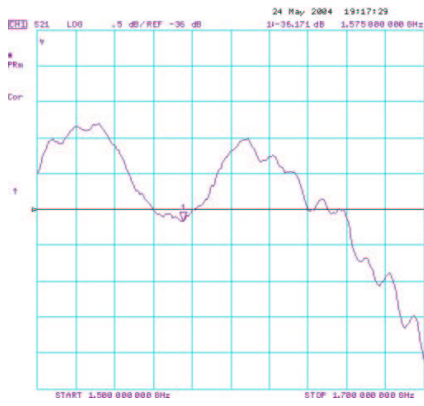


Illustration 4. Vertical (left) and horizontal (right) plots of the radiating antenna.
NOTE: 0 dBi reference line is -44 dB.