

Antenna description and verification

P-108-061/10G/VLP

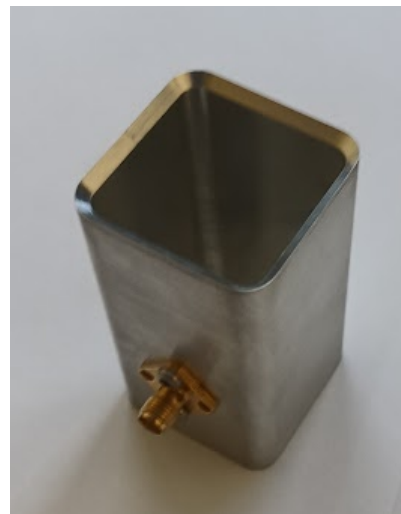
All mounting screws and SMA connectors are permanently secured using LOCTITE 270 threadlocking adhesive. LOCTITE 270 is a high-strength, permanent threadlocking adhesive suitable for all metal-threaded assemblies.

Before mounting the antenna in the assembly, its matching must be verified using a Vector Network Analyzer (VNA). The verification of the antenna matching is described in *Antenna verification* section on page 3

Antenna prototype photos



(a)



(b)



(c)



(d)

Figure 1: Antenna prototype photos

Mechanical drawings

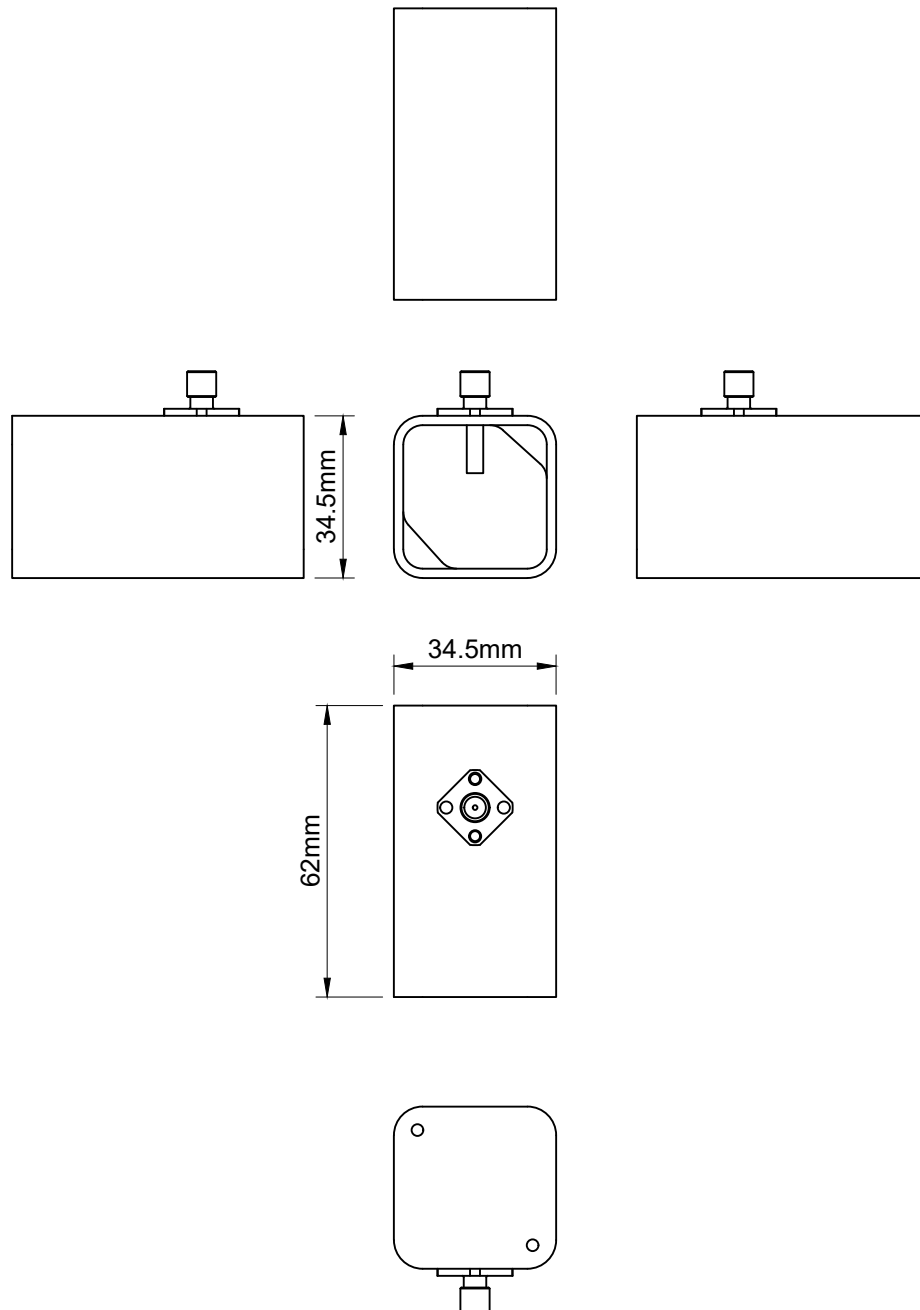


Figure 2: Antenna mechanical drawing

Antenna material

Antenna body - milled from **Aluminum Alloy AW-7075**, surface finish **Alodine** (Chemical film/Conversion)
Inner pin of the connector - turned from **Brass C27400**

Antenna verification

The antenna prototypes were verified by measurements in an independent laboratory, see antenna report, file *P-108-061-VLP-Antenna_measurement_report.pdf*

Each manufactured antenna must be verified on a Vector Network Analyzer (VNA).

The antenna is connected to the VNA by RF coaxial cable with frequency range 18GHz. The VNA must be calibrated according to the manufacturer's instructions.

Antenna matching (S11) must be better than -16dB in the frequency range 5.925 GHz to 7.125 GHz.

The S11 measurement results of several prototypes are shown in Figure 3. The limit lines are also indicated in the graph. The antenna design is highly robust, and the parameters are met with a significant margin.

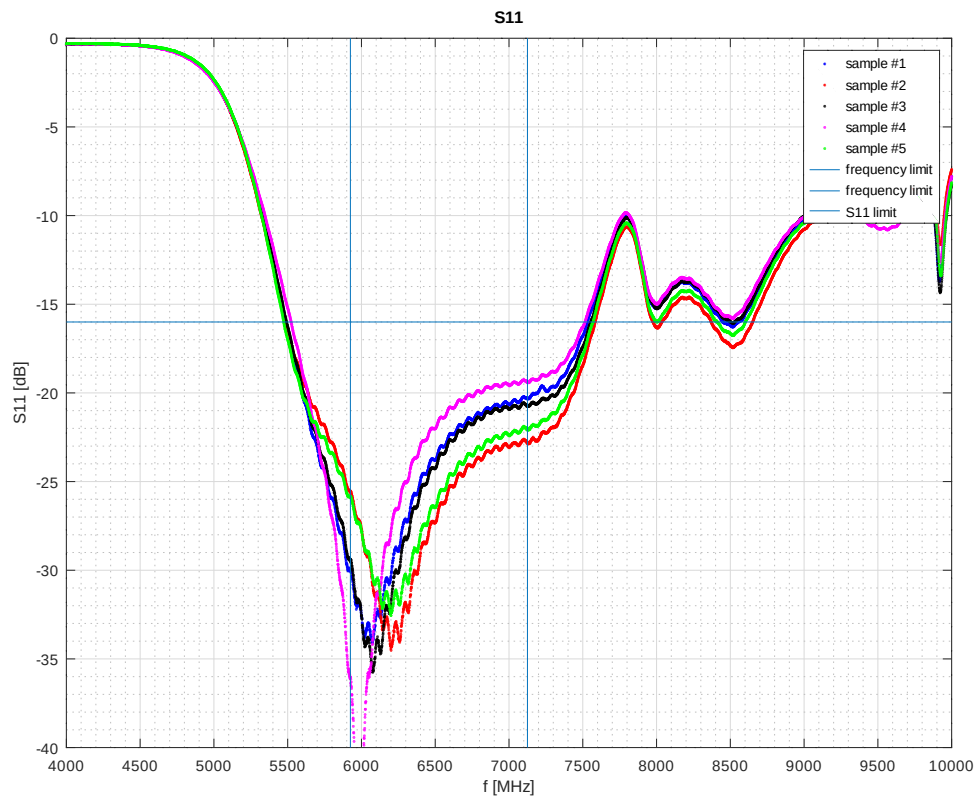


Figure 3: Antenna matching verification, sample nr. 1 to 5