

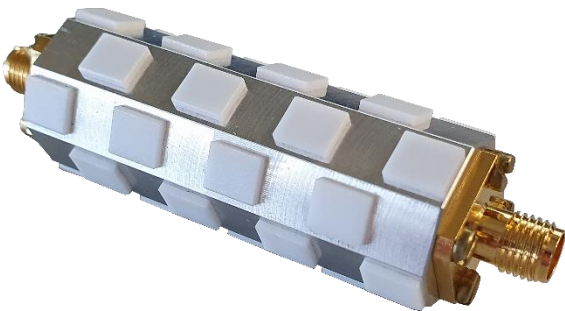
Datasheet



HERD-1

High-Energy-Radiation-Drain IR Blocking Filter

HERD-1 is a non-magnetic High-Energy-Radiation-Drain low pass filter presenting a wide stopband with high attenuation while at the same time having low loss in the passband. The filter is based on leaky waveguides and consists of an aluminum coaxial structure with PTFE-filled waveguides in parallel. To absorb the radiation the filter can be placed in a 3D printed absorber. Operating at milli-kelvin temperatures, this filter aims at providing excellent performance for quantum computing applications.



Product Features

Design impedance	50 Ω
Passband	DC-10 GHz
Stopband	70-150 (min.) GHz
Insertion loss (passband)	< 0.15 dB
Return loss (passband)	> 20 dB (DC-7 GHz) > 17 dB (7-13.5 GHz)
Insertion loss (stopband)	> 60 dB
Return loss (> 20 GHz)	> 7 dB
RF Connectors	Female SMA*

* Contact the company for alternative configurations

Absolute max ratings

Parameter	Min	Max
Operating Temperature	0 K	300 K
RF input power	-	30 dBm

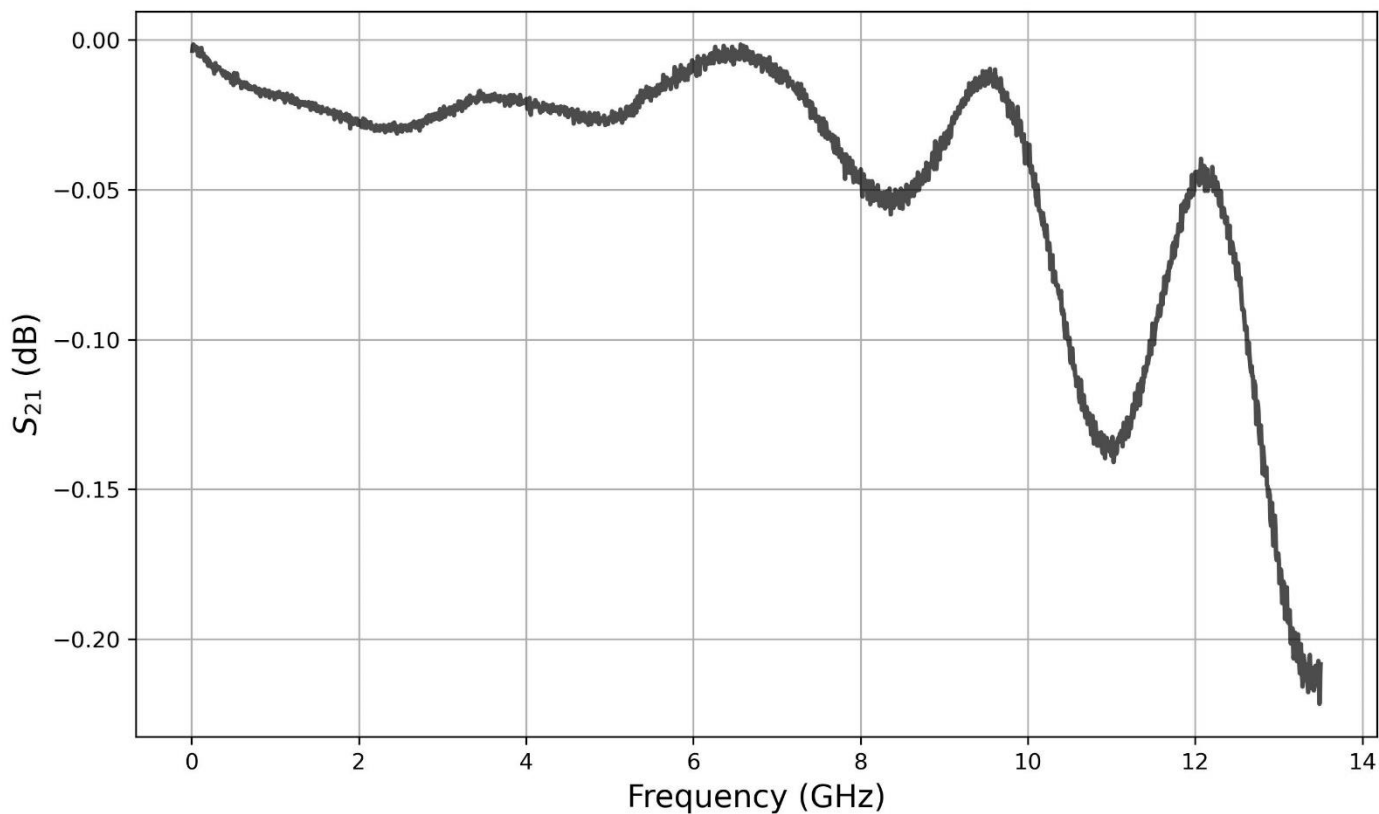
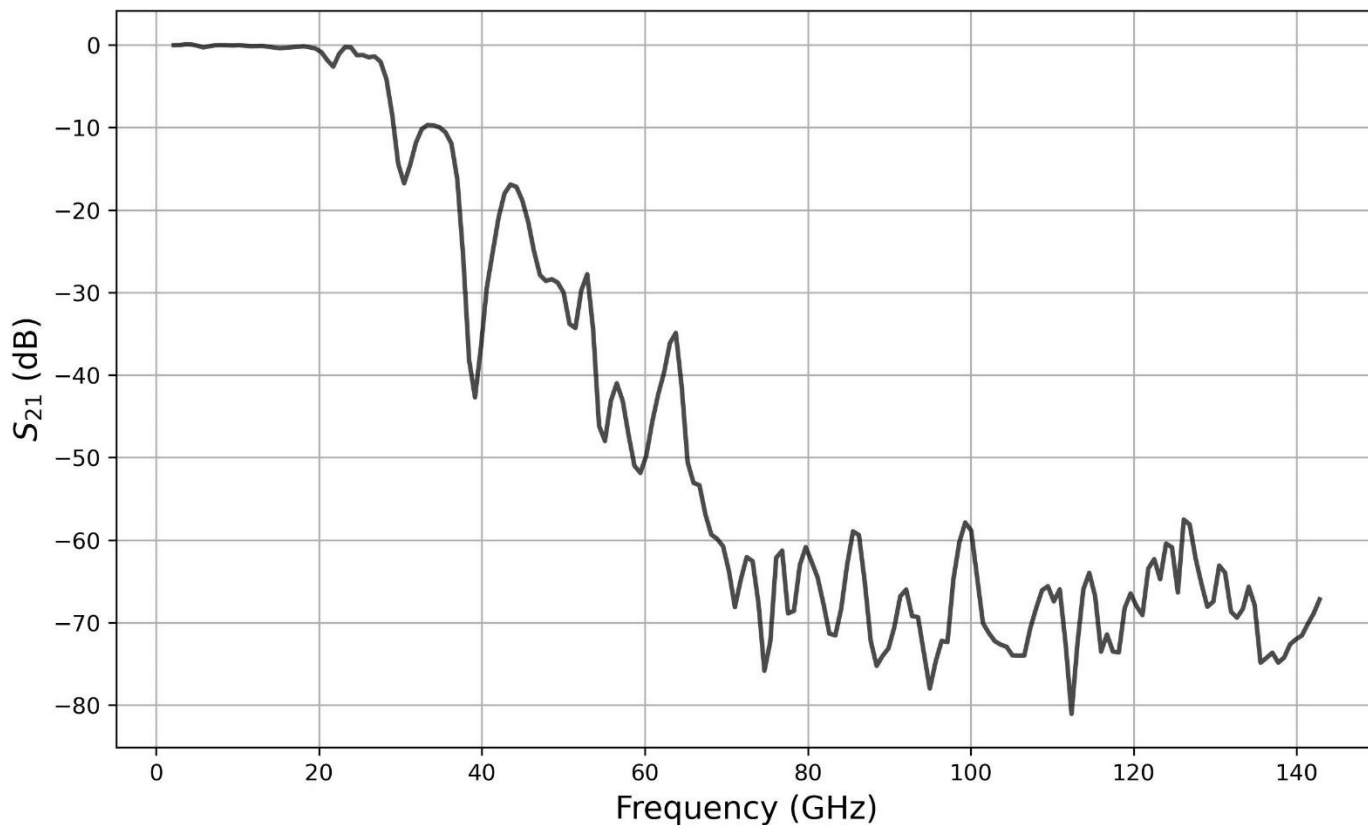
Mechanics

Length	68 mm
Diameter	19 mm
Weight	75 g

NOTE: filter not compatible with wet fridges

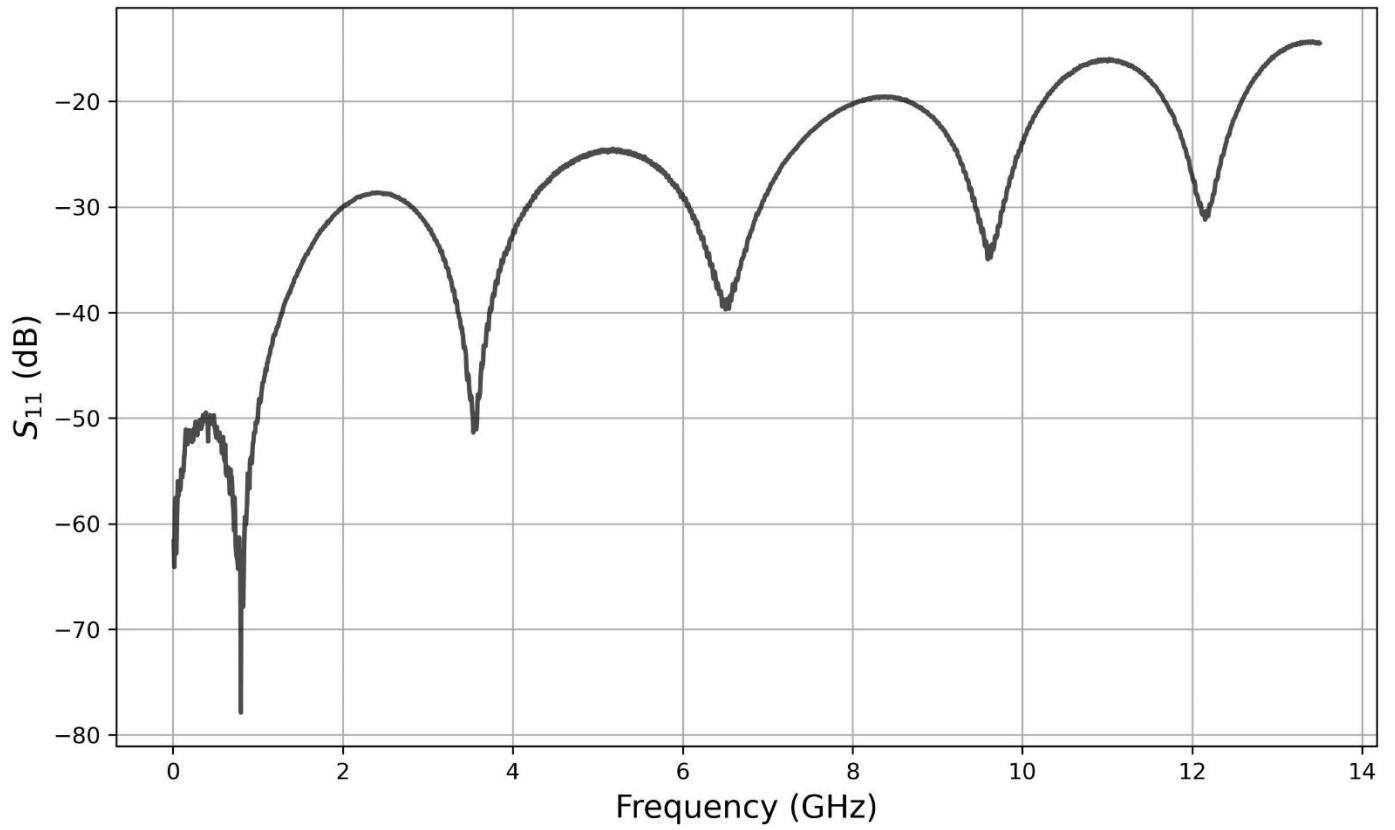
RoHS compliant

Measurement Data



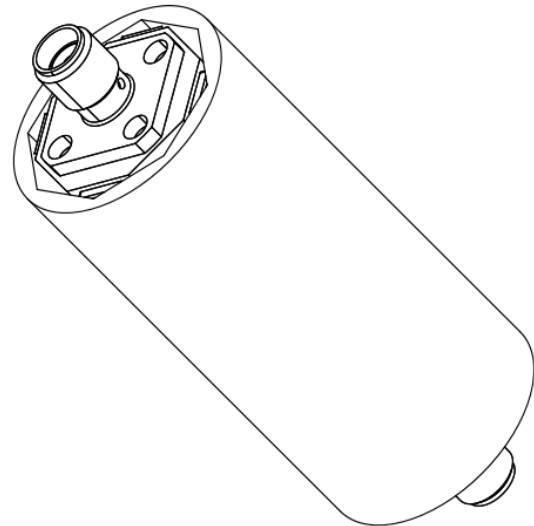
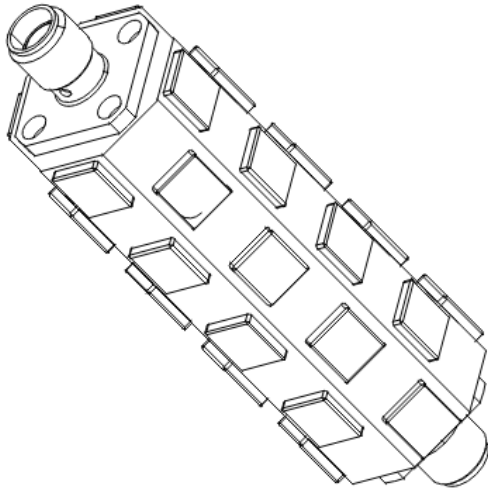
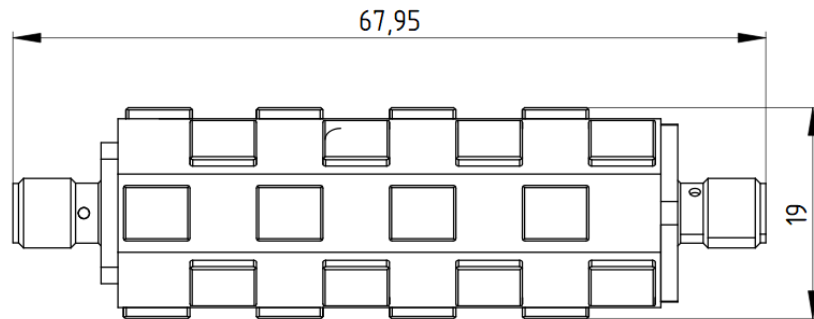
RoHS compliant

Measurement Data



RoHS compliant

Dimensions (mm)



3D printed absorber bought separately.
The absorber adds 4 mm to the filter diameter.

RoHS compliant