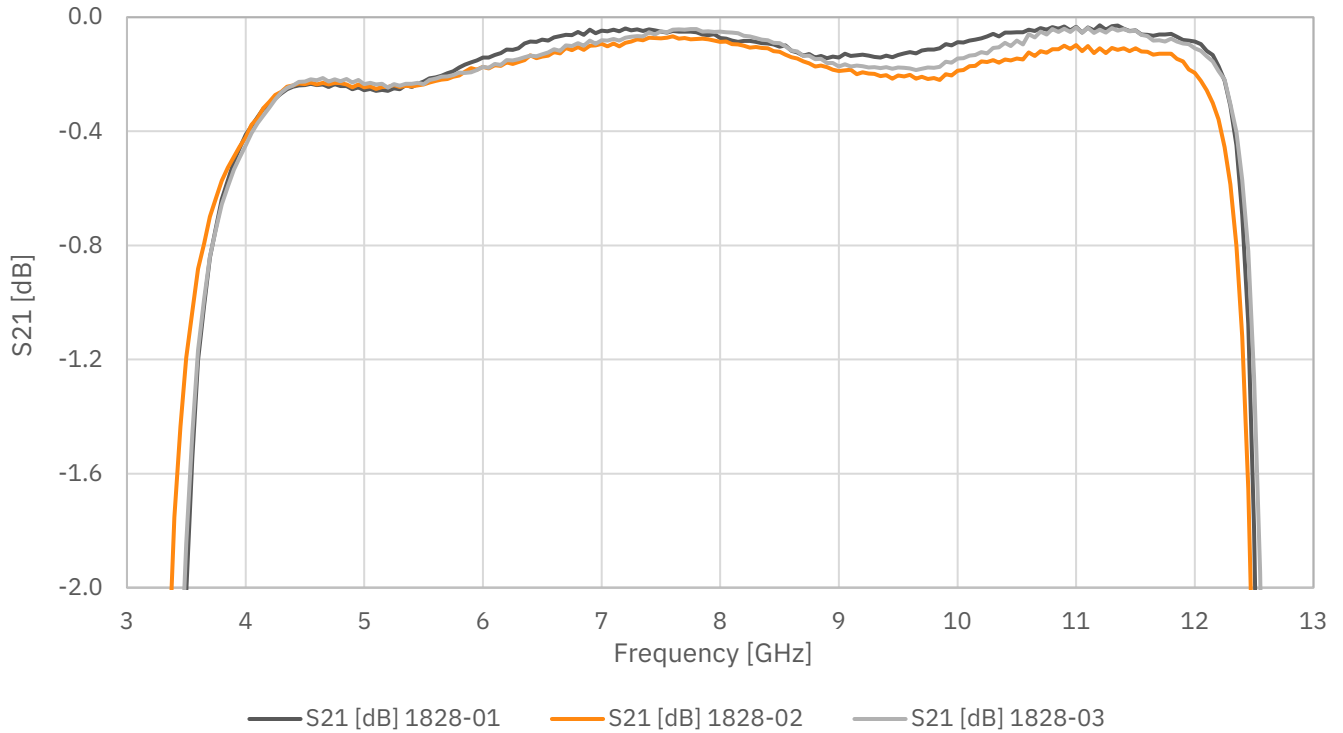


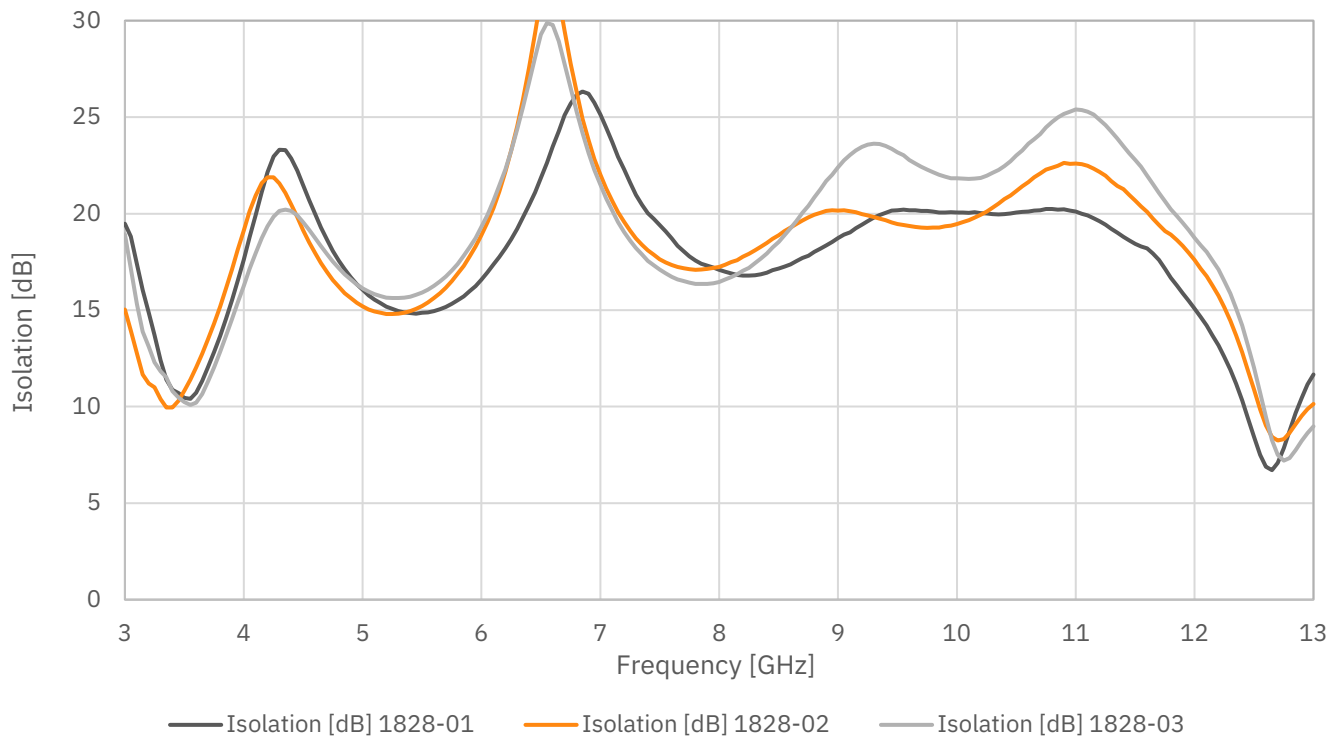


Measured data,  $T_{amb} = 77$  K

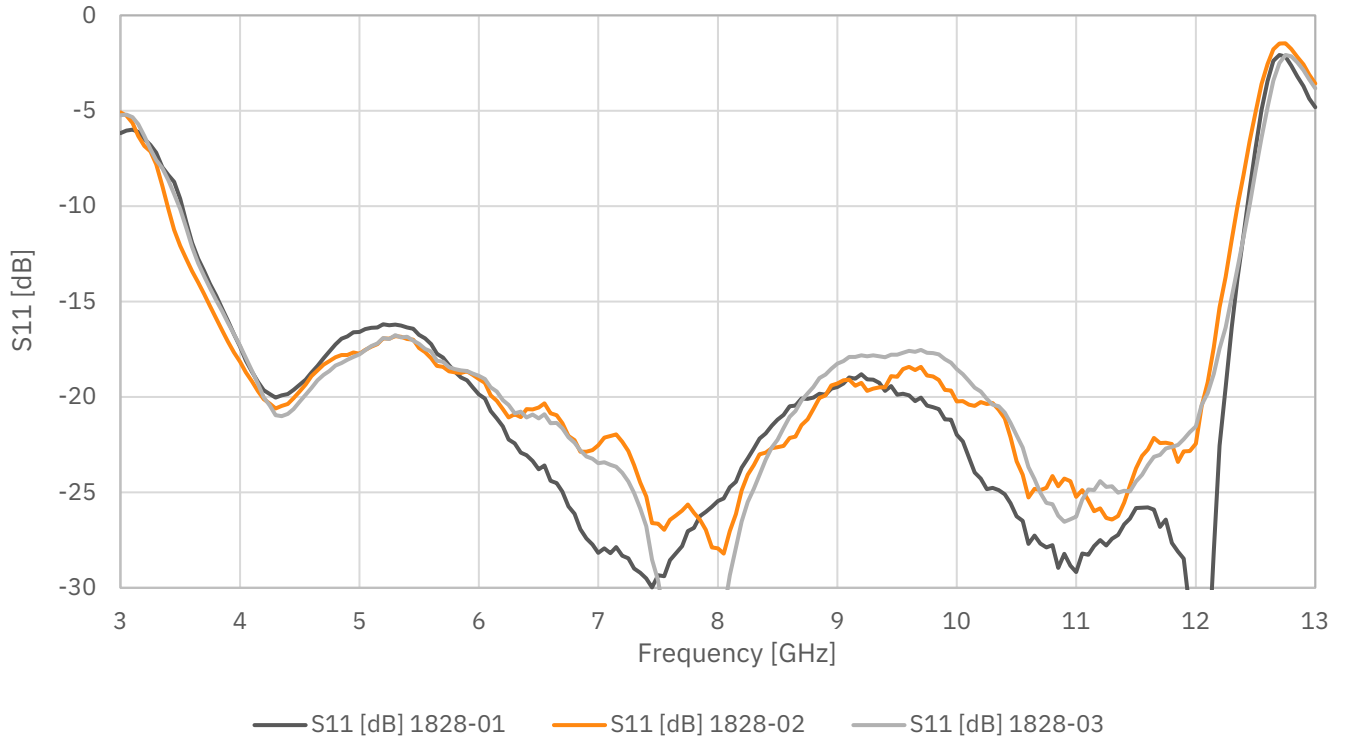
Insertion Loss of 3 Units at 77 K



Isolation of 3 Units at 77 K



### Port Match of 3 Units at 77 K



Insertion loss improves slightly when cooled to 5 K and 10 mK, port match and isolation remain the same.

## Magnetic flux density generated by internal magnet

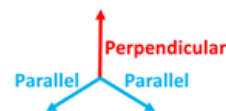
Parameter	Condition	Value	Unit
Magnetic flux density with standard shielding*	6 mm from chassis	< 4	Gauss
Magnetic flux density with optional shielding	6 mm from chassis	< 0.1	Gauss

- This is the magnetic field generated by the internal magnet inside the isolator/circulator chassis, which potentially may influence nearby components.
- Two isolators/circulators can be placed 3.3 mm apart without interfering with each other.

## Maximum external magnetic field imposed on the isolator

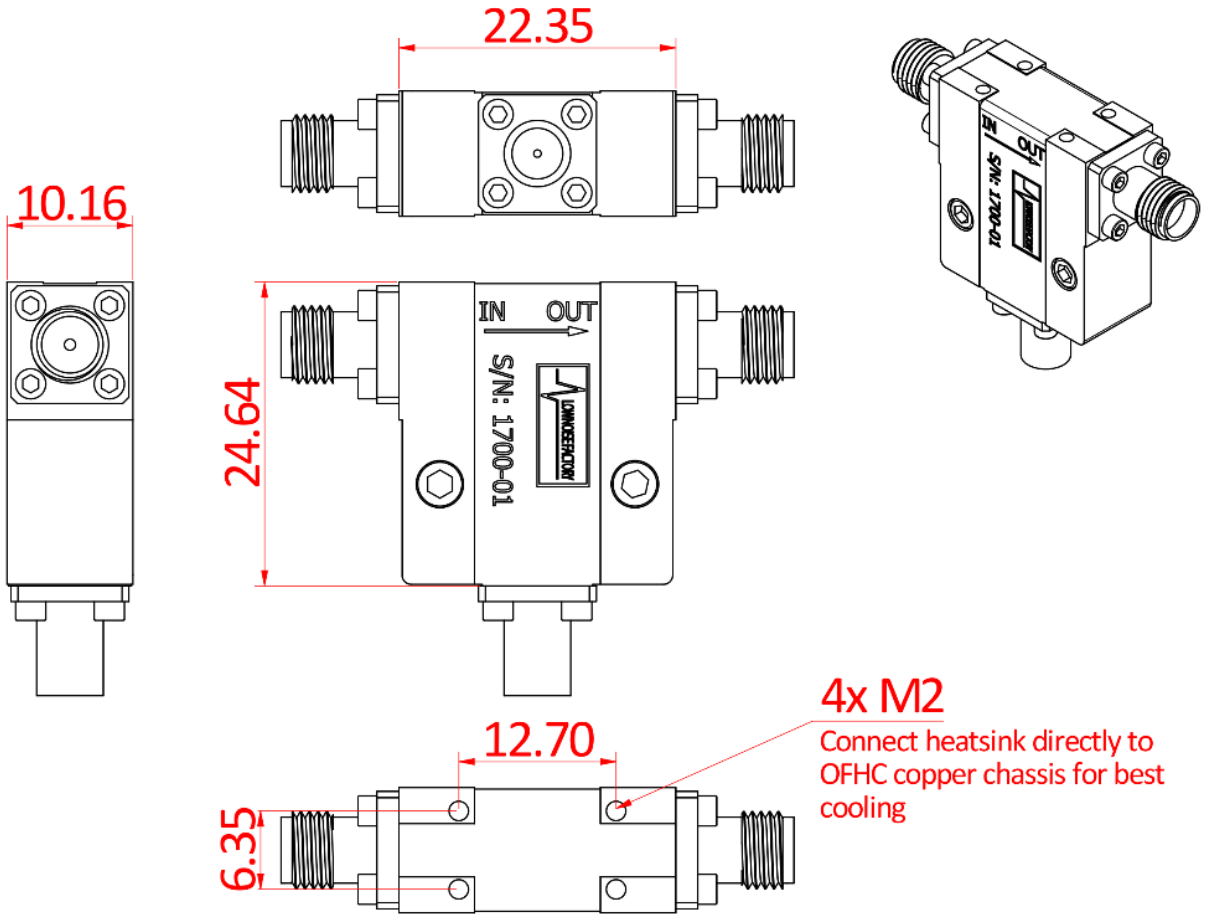
Parameter	Condition	Value	Unit
Maximum perpendicular external magnetic field	At chassis	650	Gauss
Maximum parallel external magnetic field	At chassis	1500	Gauss

- “Maximum field” means the field when the passband frequency edge has shifted 150 MHz, and insertion loss degradation becomes noticeable.
- The optional MuMetal shield improves the maximum external magnetic field very little. MuMetal alloys are good at shielding very low level “stray” magnetic fields, however the material saturates quickly and doesn’t shield well against high field external sources.



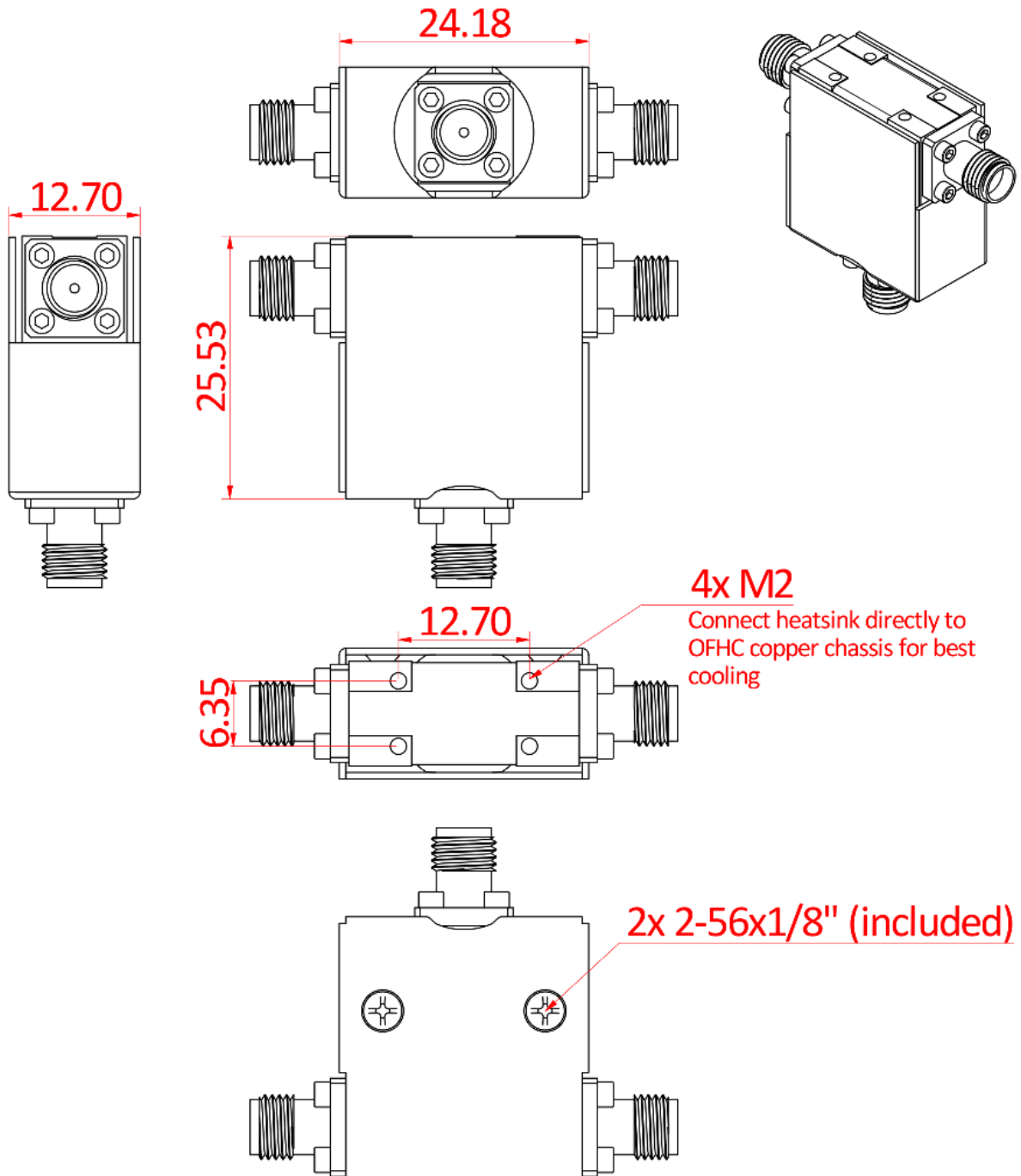
## Dimensions without additional shielding

Units: mm

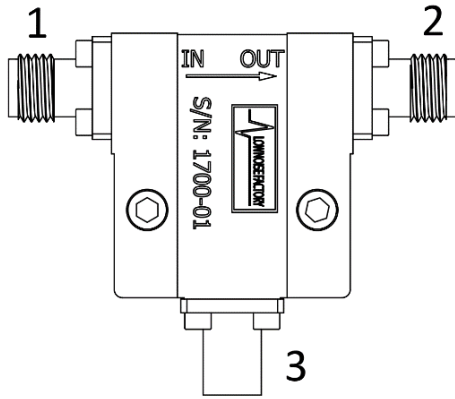


## Dimensions with additional shielding

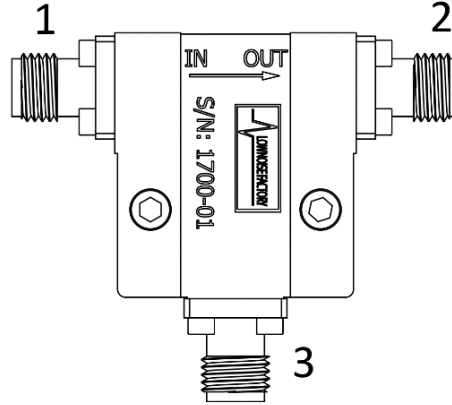
Units: mm



## Model numbering



**LNF-ISC4\_12A**  
Single Junction Isolator  
Port 1: Female SMA  
Port 2: Female SMA  
Port 3: Termination



**LNF-CIC4\_12A**  
Single Junction Circulator  
Port 1: Female SMA  
Port 2: Female SMA  
Port 3: Female SMA

Version	Model number
Isolator	LNF-ISC4_12A
Circulator	LNF-CIC4_12A
Extra shield	LNF-SHIELD4_8_SJ *

\* LNF-ISC4\_8A and LNF-ISC4\_12A share the same chassis dimensions and hence also the same extra shield.

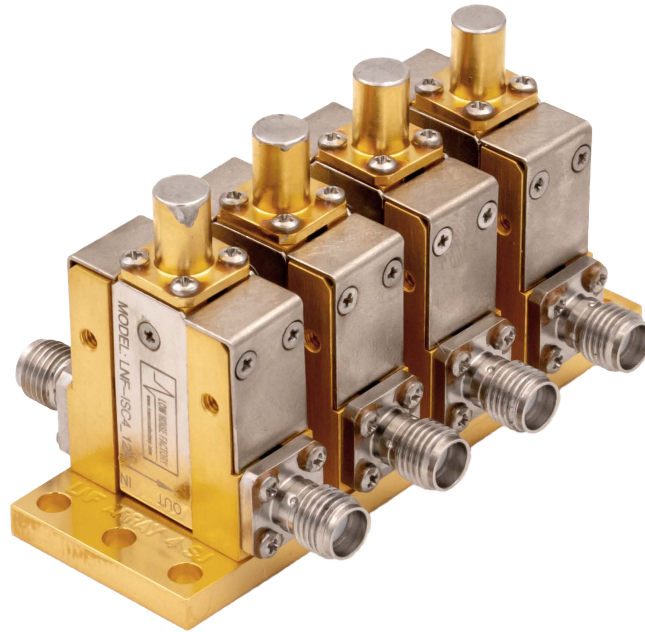
Date  
2022-05-02

Datasheet  
LNF-ISC4\_12A and LNF-CIC4\_12A  
4-12 GHz Cryogenic Isolator or Circulator



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## Array



\* Consult with factory for array options.