

QMC-CLCE-500A



Cryogenic Integrated LC Absorptive Infrared Filter | 500 MHz

Description

The QMC-CLCE-500A is an integrated infrared absorber and multi-stage LC filter which has a cutoff frequency of 500 MHz with a steep roll-off of >35 dB at 750 MHz provided by the reflective LC filter and continuous attenuation provided by infrared absorber out to >100 GHz. The filter incorporates infrared absorber regions of dielectric which minimizes high frequency transmission. The filter is designed for low temperature operation with good thermalization to OFHC copper housing.

Key Features

- Cryogenic Low Cut-Off Frequency LC integrated Infrared Filter
- Good for gate and flux bias of superconducting qubits
- Multi-pole LTCC low-pass filter with steep roll-off
- Integrated infrared filter based on magnetically loaded dielectric absorber (Eccosorb CR 124)
- Impedance 50 Ω
- Housing gold plated OFHC Copper
- Various connector configurations



QMC-CLCE-500AFF



QMC-CLCE-500AMF

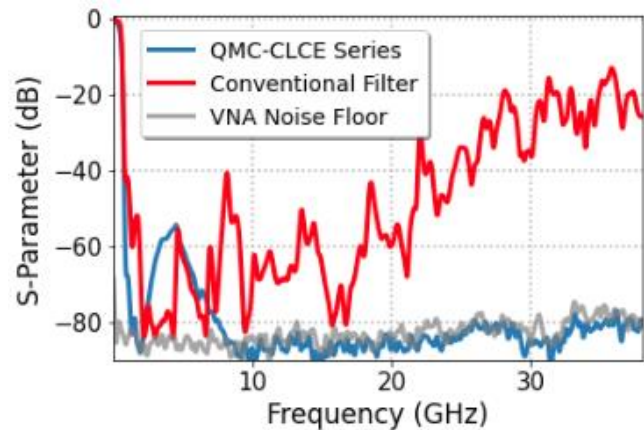
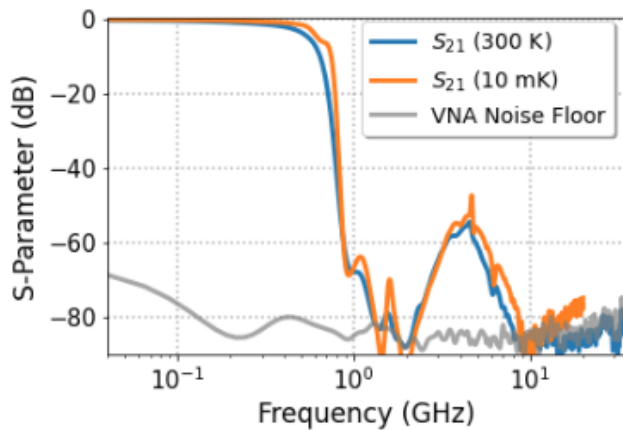


QMC-CLCE-500AFBLK

Performance

Frequency	DC – 500 MHz
Insertion loss (10 mK)	1 dB @ 400 MHz
Return loss (10 mK)	12 dB

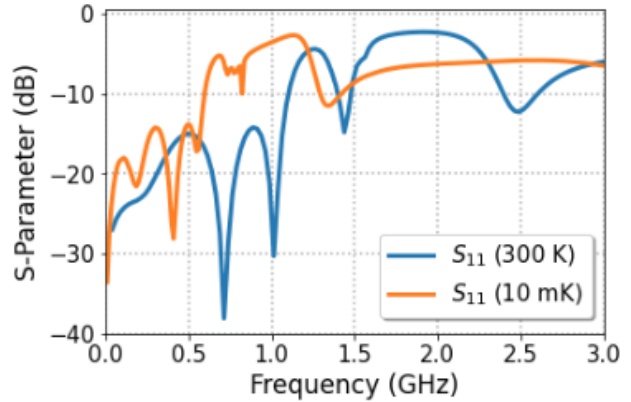
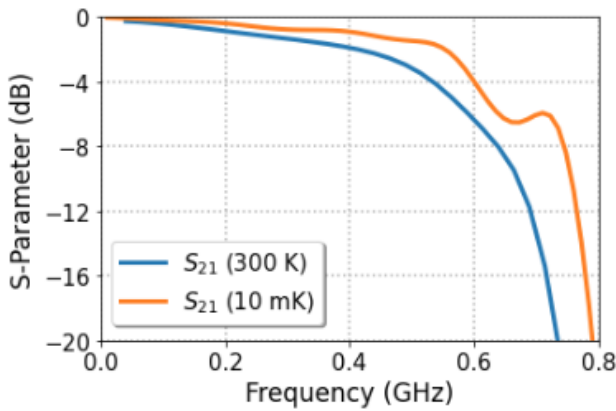
Scattering Parameters



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IR filters were characterized cryogenically in a dilution refrigerator utilizing the Quantum Microwave testing services. For more information on testing services offered contact sales@QuantumMicrowave.com

Connector Configurations

QMC-CLCE-500A series available in the following connector configurations (order number)



**SMA male-female
(QMC-CLCE-500AMF)**

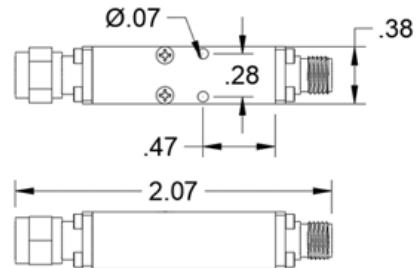
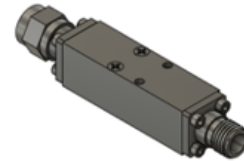


**SMA female-female
(QMC-CLCE-500AFF)**



**SMA bulkhead female-female
(QMC-CLCE-500AFF)**

Drawings



QMC-CLCE-500AMF

Functional Circuit Schematic

