

Frequency Difference Mixer

DCC:  E1600376

Description

The frequency difference mixer uses an input reference frequency of 45.5 MHz (fifth harmonics of the main modulation) and subtracts 3.125 MHz (squeezer CLF frequency) to generate a signal at 42.375 MHz, which is used by the wavefront sensors at the anti-symmetric port to align the squeezed beam.

Specifications

DCC:  E1700014

Frequencies:

- 45.5 MHz (reference input)
- 3.125 MHz (mixer input)
- 42.375 MHz (difference output)

Difference output:

- 13 dBm
- N female (2x)
- 42.375 MHz nominal

Reference input:

- 10 dBm
- N female
- 45.5 MHz nominal

Mixer input:

- 10 dBm
- N female
- 3.125 MHz nominal

Phase noise (output):

- convolution of reference and mixer input, plus
- noise figure <10dB

Amplitude noise (input & output):

- convolution of reference and mixer input, plus
- noise figure <10dB

Physical:

- 19" rack mount
- 1U

Power:

- +/-16.5V and +/-24V