

D-Band Down-conversion Extender

110-170GHz /WR-06/

Model: TLDCM-110170-12-06

TLDCM-110170-12-06 down-conversion extenders provide seamless frequency coverage from 110 GHz to 170 GHz, utilizing a WR06 waveguide RF connector . To support flexible operation and minimize unwanted signals,a set of four external bandpass filters is available. These filters enable the selective elimination of sideband and local oscillator signals, ensuring optimal performance and signal quality across the entire frequency range.

Features:

- Ultra Wide Band: 110-170 GHz
- Conversion loss: 12 dB Typ
- Unconditional stability

Applications:

- Frequency extenders for communication systems measurement
- 5G Backhaul Equipment Testing
- Antenna Testing
- 6G system chip measurement

Electrical Characteristics:

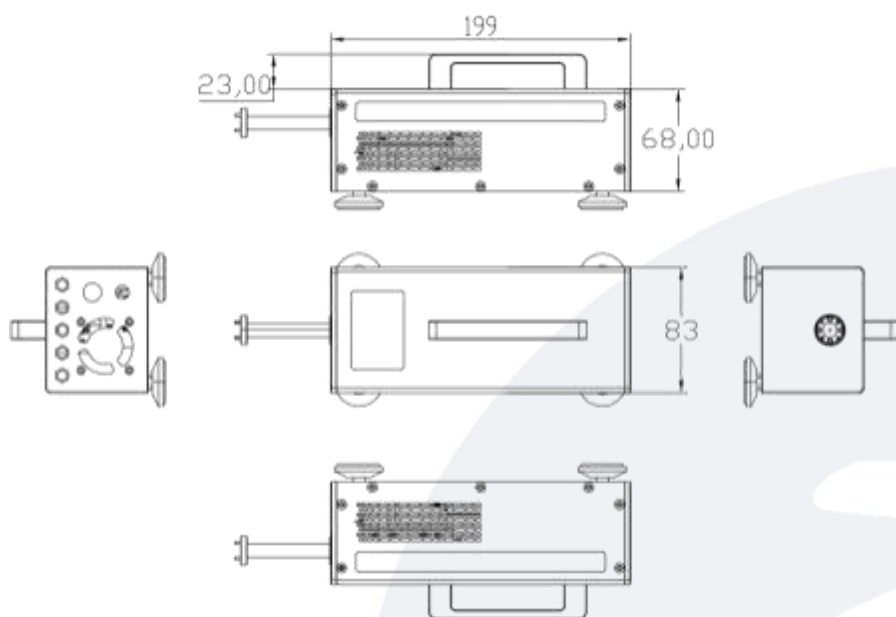
Parameter	Min	Typ	Max	Units
RF Input Frequency	110		170	GHz
LO Input Frequency	9.16		14.17	GHz
IF Output Frequency	DC		30	GHz
LO Input Power	+3	+5	+7	dBm
RF Input Power		-10	0	dBm
Conversion loss		12		dB
Multiplication Factor	12			
Supply Bias AC Voltage	100-240			V
Power Supply(External Amplifier)	+12			V

Absolute Maximum Ratings :

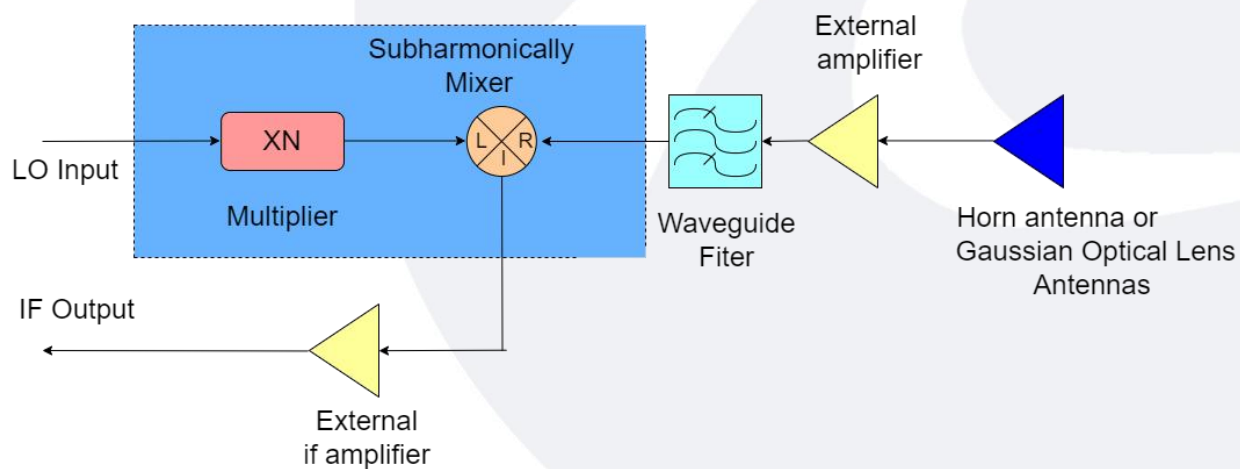
Description	Parameter	Units
RF Port Damage Level	+6	dBm
LO Port Damage Level	+10	dBm
ESD sensitivity (HBm)	Class 0, passed 150V	
Supply Bias AC Voltage	240	V
Power Supply(External Amplifier)	+15	V

Outline Drawing:

Unit:mm



Block Diagrams:



Envrionmental And Physical Characteristics:

Description	Parameter	Units
Operating Temerature	0 To +45	°C
Storage Temperature	-55 to +125	°C
Material	Al	
Finish	Gray spray paint	
Size	199*83* 68mm	

Connector Information:

Parameter	Value
RF Input Connector	WR-06/UG-387
LO Input Connector	SMA Female
IF Output Connector	2.92mm Female
Power Supply Pin	FGG 0B 4 Core
Power Supply Pin	FGG 0B 4 Core

Ordering Information:

Part Number	Description	Revision
TLDCM-110170-12-06	D-Band Down-conversion Extender,110-170GHz,Conversion loss: 12 dB Typ;	Rev.1.1
External accessories		
TLBF-115125-40	Waveguide Bandpass filter, 115 GHz to 125 GHz	Rev.1.1
TLBF-120140-40	Waveguide Bandpass filter, 120 GHz to 140 GHz	Rev.1.1
TLBF-140160-40	Waveguide Bandpass filter, 140 GHz to 160 GHz	Rev.1.1
TLBF-CUST	Support customization	Rev.1.1
TLLA50K43G-30-50	IF amplifier 50KHz-43GHz 30dB gain	Rev.1.1
TMLA-110170-2040-06	RF amplifier, 110 GHz to 170 GHz 20dB gain Noise Figure:4.0	Rev.1.1
TL-6SHA25	Horn antenna, 110 GHz to 170 GHz Gain: 25dB	Rev.1.1
TLHG-110170-40-06	Gaussian Optical Lens Antenna 110 to 170GHz Gain:40dB	Rev.1.1

Notes:

1. Dimensions and specifications may be changed without prior notice.
2. Standard Warranty:three years.