

E-Band VNA Frequency Extender

60-90GHz /WR-12

Model: TLVE-6090-13-A/TLVE-6090-13

TLVE-6090-13 frequency extenders are a dedicated Test & Measurement solution for extending the range of your Vector Network Analyzer (VNA) to 60-90 GHz.

Features:

- Ultra Wide Band: 60-90 GHz
- Port Output Power (No Attenuation): 15 dBm Typ
- Dynamic Range @ 10 Hz BW: 115dB Typ
- Unconditional stability

Applications:

- VNA Frequency Extension
- Antenna measurements
- Material characterisation

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	60		90	GHz
Test Port Output Power		15		dBm
Test Port Input Power (Damage)			20	dBm
Output Power Attenuation (Option:Variable attenuators)	0		30	dB
Dynamic Range @ 10Hz BW	100	115		dB
RF Input Frequency	10		15	GHz
RF Input Power	0	1	3	dBm
RF Multiplication Factor		6		
LO Input Frequency	10		15	GHz
LO Input Power	0	1	3	dBm
LO Multiplication Factor		6		
IF Frequency Range	1		1000	MHz
Effective Directionality@10Hz BW	38	45		dB
Payload Matching@10Hz BW	38	45		dB
ReflectionTracking@10Hz BW		±0.04	±0.1	dB
Transmission Tracking@10Hz BW		±0.04	±0.1	dB
Amplitude stability @300 Hz BW,1h		±0.05	±0.1	dB
Phase stability @300 Hz BW,1h		±1		°

Mechanical Specifications:

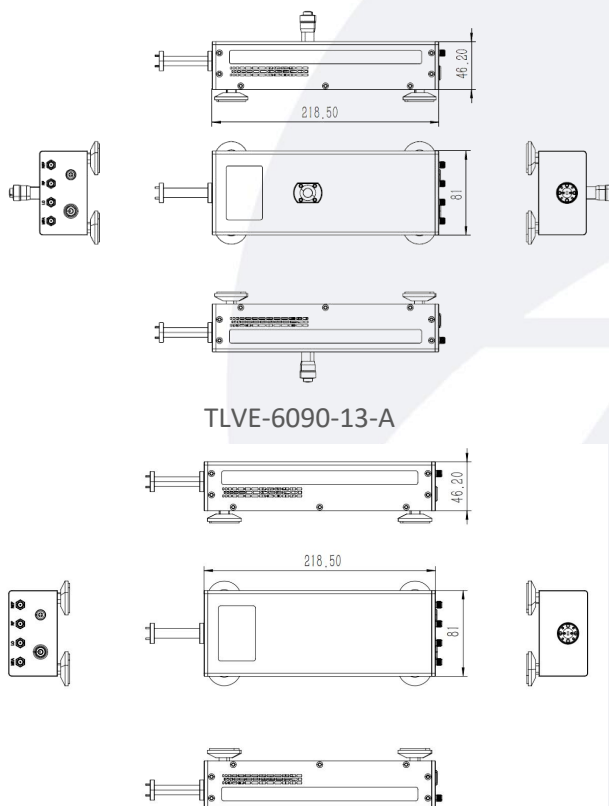
Parameter	Value
RF/LO Input Connector	SMA Female
MEA/REF IF Output Connector	SMA Female
Test Port Connector	WR-12/UG-387/U
Power Supply Pin	FGG 0B 4 Core
Size	218.5*81*46.2mm

Absolute Maximum Ratings :

Description	Parameter	Units
Test Port Input Power	+20	dBm
RF/LO Port Damage Level	+10	dBm
Supply Bias Voltage	+240 V AC	
ESD sensitivity (HBm)	Class 0, passed 150V	

Outline Drawing:

Unit:mm



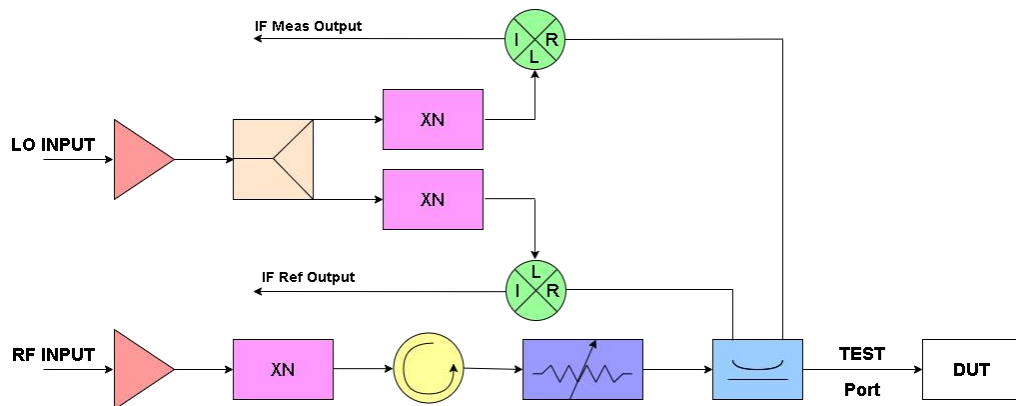
TLVE-6090-13-A

TLVE-6090-13

Regulatory Compliance:



Block Diagrams:



Environmental And Physical Characteristics:

Description	Parameter	Units
Operating Temperature	0 To +45	°C
Storage Temperature	-55 to +125	°C
Material	Al	
Finish	Gray spray paint	

Ordering Information:

Part Number	Description	Revision
TLVE-6090-13	E-band VNA Frequency Extender, 60-90 GHz, Output Power:15 dBm typ., Dynamic Range:115 dB typ.,Magnitude Stability @300Hz BW:±0.05dB,Phase Stability @300Hz BW:±1°	Rev.1.2
TLVE-6090-13-A	E-band VNA Frequency Extender, 60-90 GHz, Output Power:15dBm typ., Dynamic Range:115 dB typ.,Magnitude Stability @300Hz BW:±0.05dB,Phase Stability @300Hz BW:±1°,with Micrometer driven variable attenuators	Rev.1.2

Components Included:

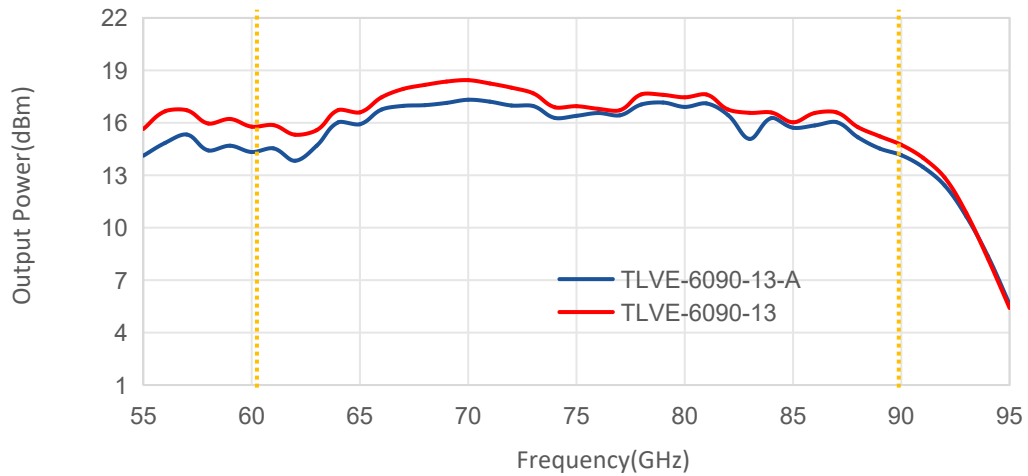
Part Number	Description	Quantity
S1-SMAMSMAM-1.2m	COAXIAL CABLE ASSEMBLY	4 PCS
TLACTDC-22012	AC-to-DC Power Adapter	1 PCS

Notes:

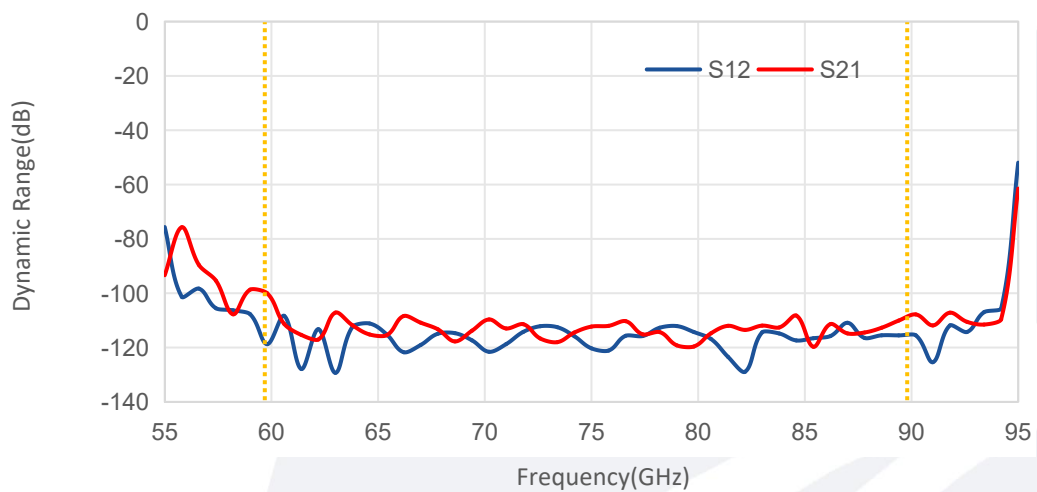
1. Dimensions and specifications may be changed without prior notice.
2. Standard Warranty:three years.

Typical Performance Data:

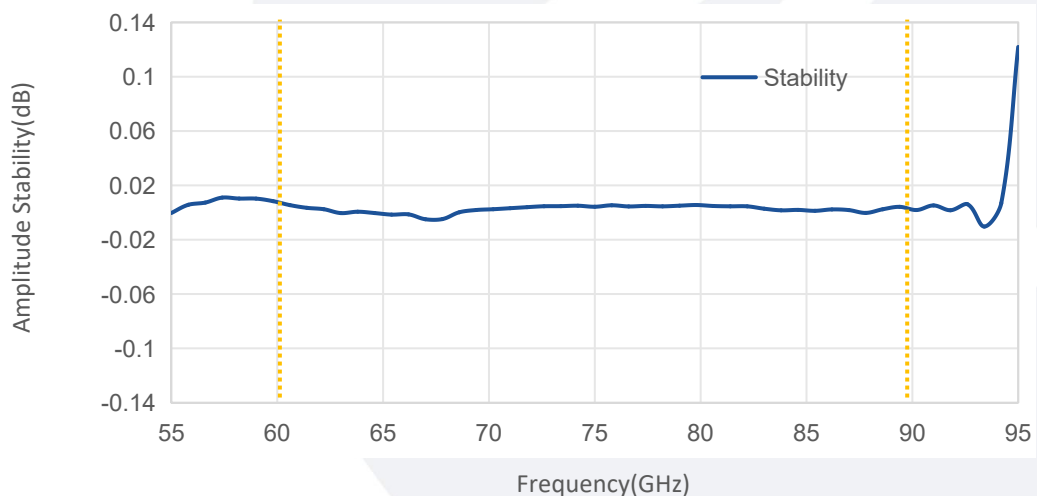
Output Power vs Frequency



Dynamic Range vs Frequency



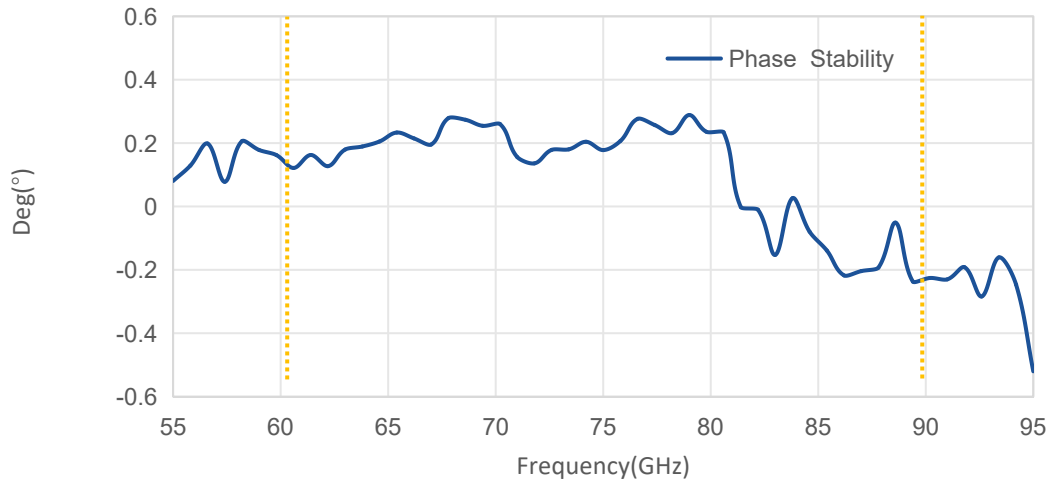
Amplitude Stability@1h vs Frequency



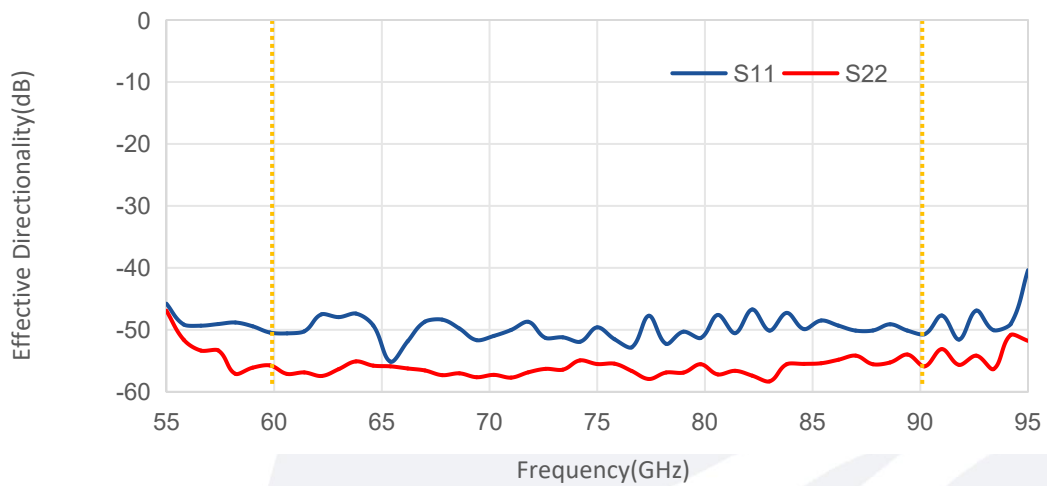
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

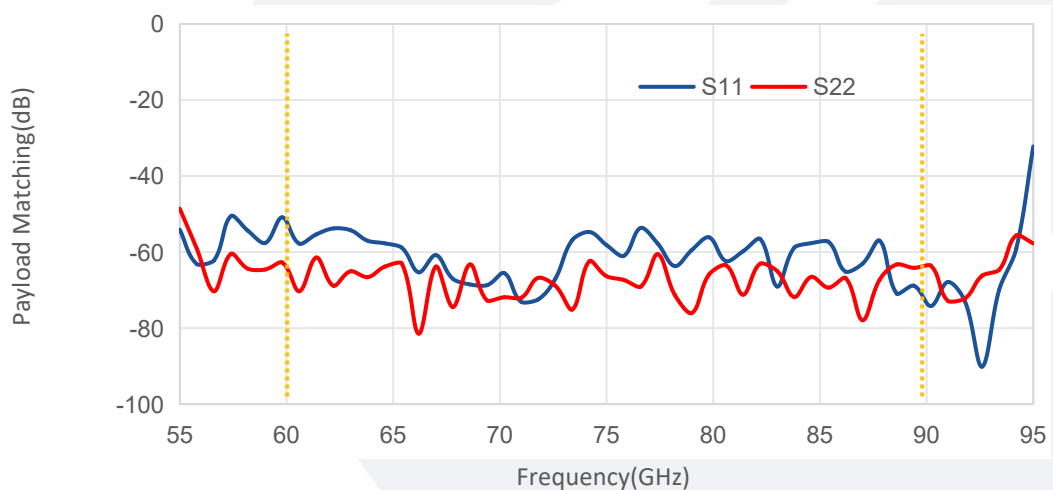
Phase Stability@1h vs Frequency



Effective Directionality vs Frequency



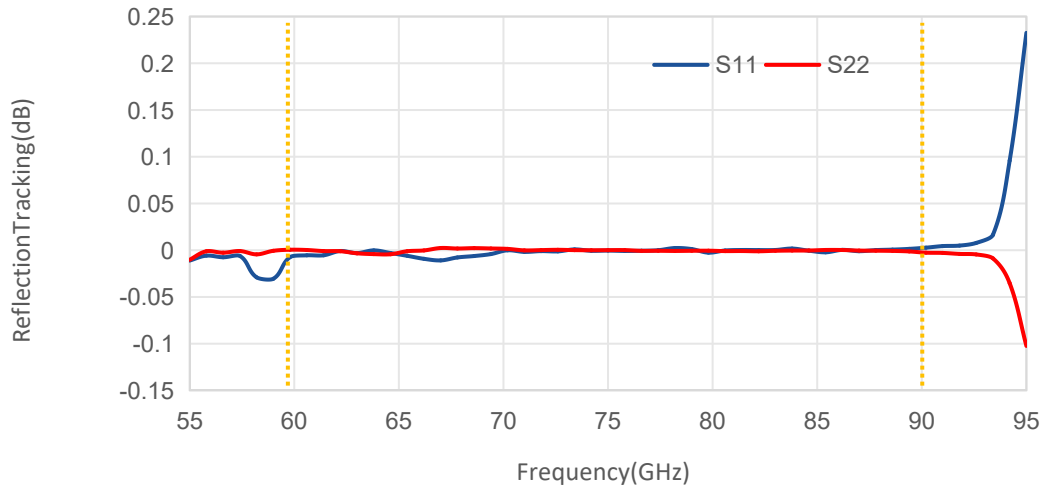
Payload Matching vs Frequency



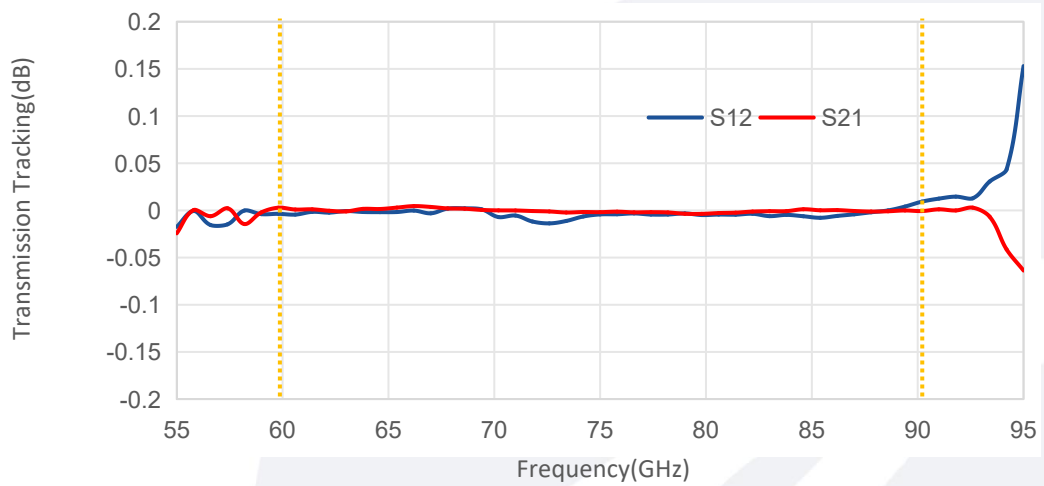
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

ReflectionTracking vs Frequency



Transmission Tracking vs Frequency



Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.