

## J-Band VNA Frequency Extender

220-330GHz/WR-3.4

Model: TLTE-220330-N3/TLRE-220330

TLTE-220330-N3/TLRE-170260 frequency extenders are a dedicated Test & Measurement solution for extending the range of your Vector Network Analyzer (VNA) to 220-330 GHz.

### Features:

- Frequency range: 220-330 GHz
- Port Output Power: -3dBm Typ
- Dynamic Range @10Hz BW: 100dB Typ
- Unconditional stability

### Applications:

- VNA Frequency Extension
- Antenna measurements
- Material characterisation

### Electrical Characteristics:

| Parameter                     | Min   | Typ  | Max   | Units |
|-------------------------------|-------|------|-------|-------|
| Frequency range               | 220   |      | 330   | GHz   |
| Test Port Output Power        |       | -3   |       | dBm   |
| Dynamic Range @10Hz BW        |       | 100  |       | dB    |
| RF Input Frequency            | 12.22 |      | 18.33 | GHz   |
| RF Input Power                | 3     | 5    | 7     | dBm   |
| RF Multiplication Factor      | 18    |      |       |       |
| LO Input Frequency            | 9.16  |      | 13.75 | GHz   |
| LO Input Power                | 3     | 5    | 7     | dBm   |
| LO Multiplication Factor      | 24    |      |       |       |
| Conversion Loss of Receiver   |       | 15   |       | dB    |
| IF Frequency Range            | 1     |      | 1000  | MHz   |
| Amplitude Stability @300Hz BW |       | ±0.3 |       | dB    |
| Phase Stability @300Hz BW     |       | ±6   |       | °     |

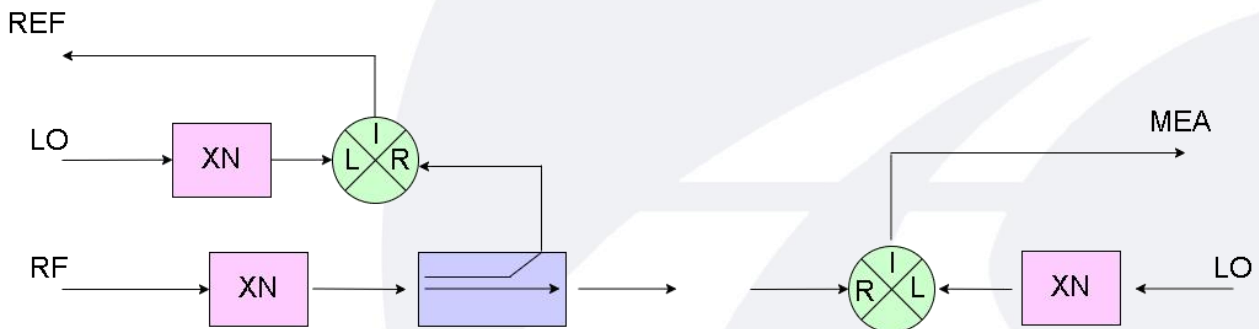
## Mechanical Specifications:

| Parameter                   | Value           |
|-----------------------------|-----------------|
| RF/LO Input Connector       | SMA Female      |
| MEA/REF IF Output Connector | SMA Female      |
| Test Port Connector         | WR-3.4/UG-387/U |
| Power Supply Pin            | FGG 0B 4 Core   |

## Absolute Maximum Ratings :

| Description                                 | Parameter            | Units |
|---------------------------------------------|----------------------|-------|
| RF/LO Port Damage Level (Transmit Extender) | +10                  | dBm   |
| RF Port Damage Level (Receiver Extender)    | 0                    | dBm   |
| LO Port Damage Level (Receiver Extender)    | +10                  | dBm   |
| Supply Bias Voltage                         | +240 V AC            |       |
| ESD sensitivity (HBm)                       | Class 0, passed 150V |       |

## Block Diagrams:



## Envrionmental And Physical Characteristics:

| Description          | Parameter        | Units |
|----------------------|------------------|-------|
| Operating Temerature | 0 to +45         | °C    |
| Storage Temerature   | -55 to +125      | °C    |
| Material             | Aluminum         |       |
| Finish               | Gray spray paint |       |

## Ordering Information:

| Part Number    | Description                                                                                                                                                         | Revision |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| TLTE-220330-N3 | J-band VNA Frequency Extender,220-330GHz,Output Power:-3dBm typ,<br>Dynamic Range: 100dB typ.,Magnitude Stability @300Hz<br>BW:±0.3dB,Phase Stability @300Hz BW:±6° | Rev.1.1  |
| TLRE-220330    | J-band Receiver Module,220-330GHz,Conversion Loss: 15dB typ.                                                                                                        | Rev.1.1  |

## 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.