

## VNA Frequency Extender

330-500GHz/WR-2.2

Model: TLTE-330500-N9/TLRE-330500

TLTE-330500-N9/TLRE-330500 frequency extenders are a dedicated Test & Measurement solution for extending the range of your Vector Network Analyzer (VNA) to 330-500 GHz.

### Features:

- Frequency range: 330-500 GHz
- Port Output Power: -9 dBm Typ
- Dynamic Range @ 10 Hz BW: 100dB Typ
- Unconditional stability

### Applications:

- VNA Frequency Extension
- Antenna measurements
- Material characterisation

### 电气特性 Electrical Characteristics:

| 参数 Parameter                        | Min   | Typ  | Max   | 单位 Units |
|-------------------------------------|-------|------|-------|----------|
| 频率范围 Frequency range                | 330   |      | 500   | GHz      |
| 测试端口输出功率 Test Port Output Power     |       | -9   |       | dBm      |
| 动态范围 Dynamic Range @10Hz BW         |       | 100  |       | dB       |
| 射频输入频率 RF Input Frequency           | 9.16  |      | 13.88 | GHz      |
| 射频输入功率 RF Input Power               | 3     | 5    | 7     | dBm      |
| RF倍频次数 RF Multiplication Factor     | 36    |      |       |          |
| 本振输入频率 LO Input Frequency           | 13.75 |      | 20.83 | GHz      |
| 本振输入功率 LO Input Power               | 3     | 5    | 7     | dBm      |
| LO倍频次数 LO Multiplication Factor     | 24    |      |       |          |
| 接收端变频损耗 Conversion Loss of Receiver |       | 25   |       | dB       |
| 中频频率范围 IF Frequency Range           | 1     |      | 1000  | MHz      |
| 幅度稳定度 Amplitude Stability @300Hz BW |       | ±0.8 |       | dB       |
| 相位稳定度 Phase Stability @300Hz BW     |       | ±10  |       | °        |

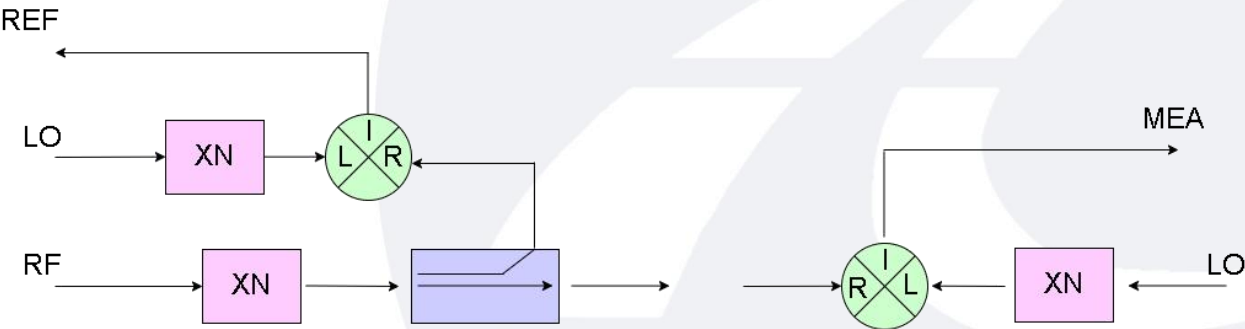
### 机械特性 Mechanical Specifications:

| 参数 Parameter                               | 指标 Value        |
|--------------------------------------------|-----------------|
| RF/LO输入接口 RF/LO Input Connector            | SMA Female      |
| MEA/REF IF输出接口 MEA/REF IF Output Connector | SMA Female      |
| 测试端口 Test Port Connector                   | WR-2.2/UG-387/U |
| 供电 Power Supply Pin                        | FGG 0B 4 Core   |

### 绝对最大值 Absolute Maximum Ratings :

| 描述 Description                                                    | 参数 Parameter         | 单位 Units |
|-------------------------------------------------------------------|----------------------|----------|
| RF/LO端损坏等级(发射参考模块)<br>RF/LO Port Damage Level (Transmit Extender) | +10                  | dBm      |
| RF端损坏等级(接收模块)<br>RF Port Damage Level (Receiver Extender)         | 0                    | dBm      |
| LO端损坏等级(接收模块)<br>LO Port Damage Level (Receiver Extender)         | +10                  | dBm      |
| 供电偏置 Supply Bias Voltage                                          | +240 V AC            |          |
| ESD灵敏度 ESD sensitivity (HBm)                                      | Class 0, passed 150V |          |

### 原理框图 Block Diagrams:



## 环境和物理特性 Envrionmental And Physical

| 描述 Description             | 参数 Parameter     | 单位 Units |
|----------------------------|------------------|----------|
| 操作温度 Operating Temperature | 0 to +45         | °C       |
| 存储温度 Storage Temperature   | -55 to +125      | °C       |
| 材质 Material                | Aluminum         |          |
| 表面处理 Finish                | Gray spray paint |          |

## 订货信息 Ordering Information:

| 标准型号 Part Number | 描述 Description                                                                                                                                                 | 版本号 Revision |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| TLTE-330500-N9   | VNA Frequency Extender,330-500GHz,Output Power: -9dBm typ,<br>Dynamic Range: 100dB typ.,Magnitude Stability @300Hz<br>BW:±0.8dB,Phase Stability @300Hz BW:±10° | Rev.1.1      |
| TLRE-330500      | Receiver Module,330-500GHz,Conversion Loss: 25dB typ.                                                                                                          | Rev.1.1      |

## 随货配件 Components Included:

| 标准型号 Part Number | 描述 Description         | 数量 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.