

## Passive Frequency Multiplier

**WR-2.2/X3/330-500GHz/-2dBm Output Power      Model: TMPM-330500-03N2-2.2**

TMPM-330500-03N2-2.2 is a WR-2.2 X3 passive multiplier that generates second order harmonics with good harmonic and fundamental suppression. This multiplier requires an input frequency range of 110 to 166.67 GHz at +17 dBm RF power to yield typical -2 dBm output power at 330 to 500 GHz. The multiplier is equipped with a WR-6.5 waveguide and UG-387/U-M flange as its input port and a WR-2.2 waveguide and UG-387/U-M flange as its output port.

### Features:

- Output Frequency:330-500GHz
- Output Power : -2 dBm Typ
- Compactness,High Power&Efficiency

### Applications:

- Frequency Extenders
- THz Systems
- Source Modules

### Electrical Characteristics:

| Parameter        | Min | Typ | Max    | Units |
|------------------|-----|-----|--------|-------|
| Output Frequency | 330 |     | 500    | GHz   |
| Input Frequency  | 110 |     | 166.67 | GHz   |
| Output Power     |     | -2  |        | dBm   |
| Input Power      | 15  | 17  | 19     | dBm   |
| Multiply Factor  |     | 3   |        |       |

### Mechanical Specifications:

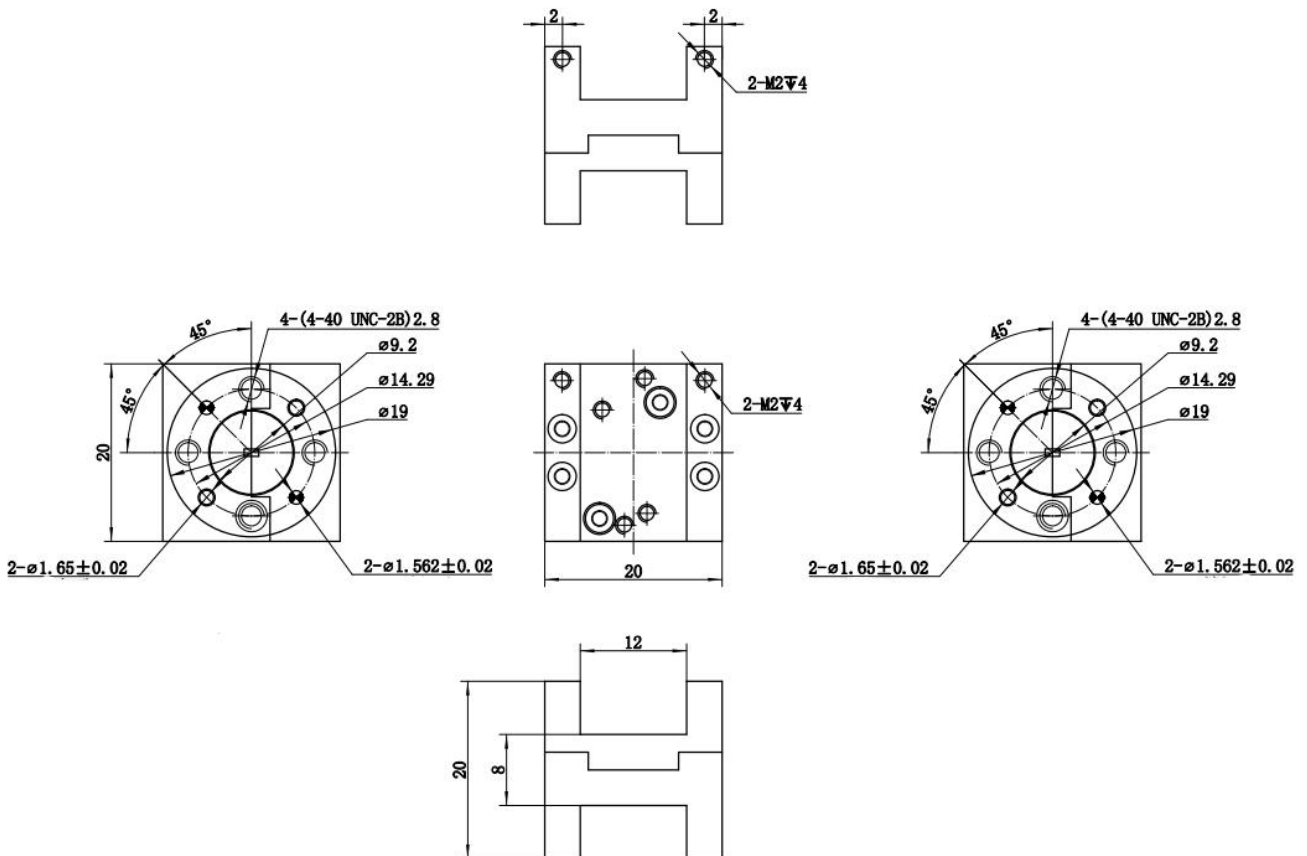
| Parameter        | Value           | Units |
|------------------|-----------------|-------|
| Output Connector | WR-2.2/UG-387/U |       |
| Input Connector  | WR-6.5/UG-387/U |       |
| Size             | 20*20*20        | mm    |

### Absolute Maximum Ratings:

| Parameter             | Value                |
|-----------------------|----------------------|
| RF Input Power        | +21 dBm              |
| ESD sensitivity (HBm) | Class 0, passed 150V |

### Outline Drawing:

Unit:mm



ESD Protection: Strictly adhere to ESD precautions to prevent electrostatic damage.

### Environmental Conditions:

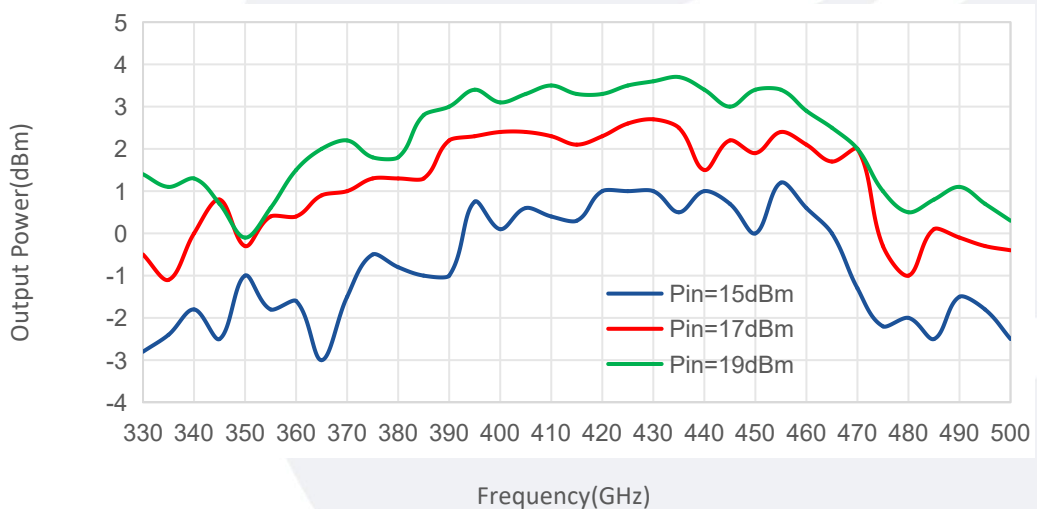
| Parameter                       | Min   | Typ | Max  | Units |
|---------------------------------|---|-----|------|-------|
| Operating Temperature           | -55   |     | +85  | °C    |
| Non-operating Temperature       | -65   |     | +150 | °C    |
| Relative humidity               |   | 95  |      | %     |
| Altitude                        | 10,000  |     |      | feet  |
| Shock / Vibration(MIL-STD-810F) | 25g rms (15 degree 2KHz) endurance, 1 hour per axis |     |      |       |
| Shock(non operating)            | 20G for 11msc half sin wave,3 axis both directions  |     |      |       |

### Ordering Information:

| Base Number          | Description   | Revision |
|----------------------|---|----------|
| TMPM-330500-03N2-2.2 | Passive Frequency Tripler<br>X3,330-500GHz, -2dBm Output Power,WR-2.2 | Rev.1.1  |

### Typical Performance Data:

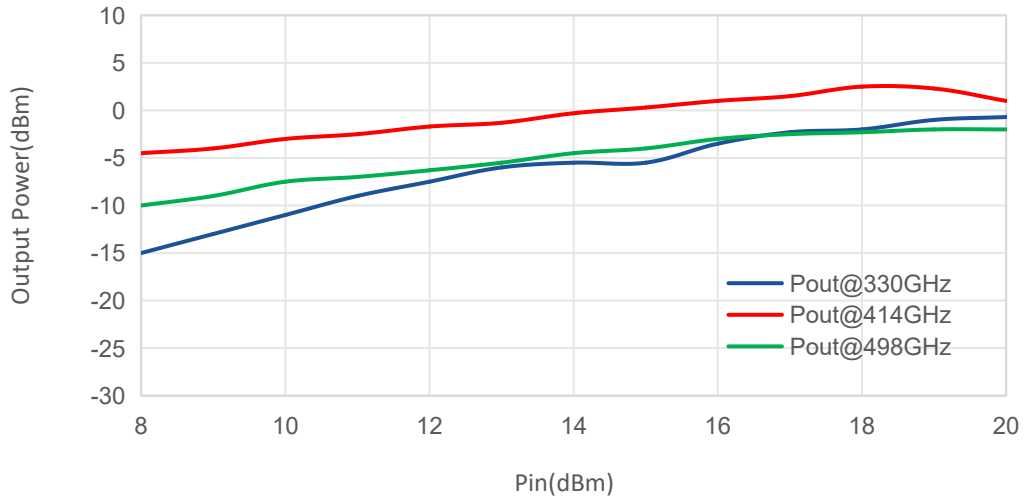
Output Power vs Frequency



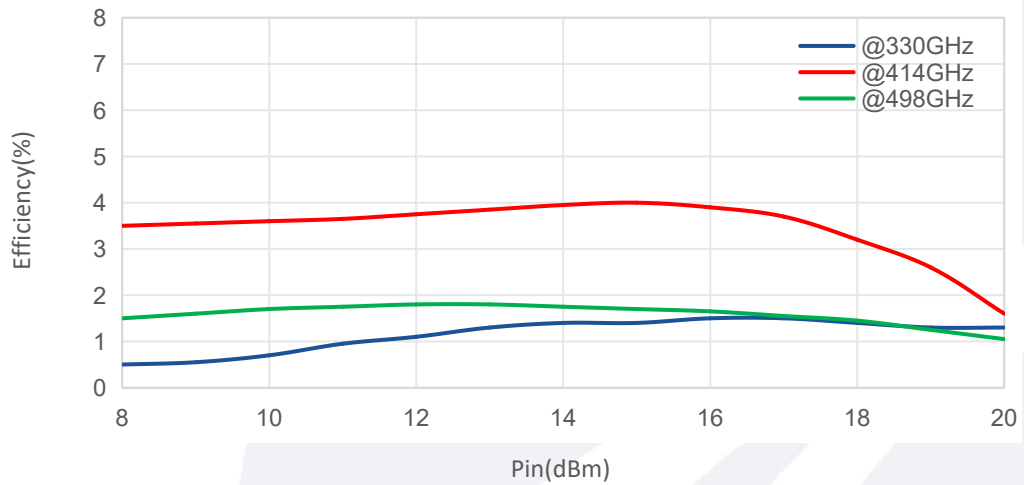
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## Typical Performance Data:

### Output Power vs Pin



### Multiplication Efficiency vs Pin



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