

## Passive Multiplier

### X2/4-15GHz /2dBm Output Power

**Model: TLPM-0415-0202-K**

TLPM-0415-0202-K is a X2 passive multiplier. The multiplier has an input frequency of 2 to 7.5 GHz with a typical input power of 14 dBm and an output frequency of 4 to 15 GHz with a typical output power of 2 dBm. The input and output port configuration is 2.92mm connector.

#### Features:

- Output Frequency: 4-15GHz
- Output Power : 2dBm Typ
- Low power consumption
- 50 Ohm Matched Input / Output

#### Applications:

- Synthesizers
- Local oscillators

#### Electrical Characteristics:

| Parameter                | Min | Typ | Max | Units |
|--------------------------|-----|-----|-----|-------|
| Output Frequency         | 4   |     | 15  | GHz   |
| Output Power             |     | 2   |     | dBm   |
| Input Frequency          | 2   |     | 7.5 | GHz   |
| Input Power              | 7   | 14  | 20  | dBm   |
| Multiply Factor          |     | 2   |     |       |
| 1st Harmonic Suppression |     | -27 |     | dBc   |
| 3rd Harmonic Suppression |     | -36 |     | dBc   |
| 4th Harmonic Suppression |     | -15 |     | dBc   |
| 1st Harmonic Isolation   |     | -38 |     | dBc   |
| 3rd Harmonic Isolation   |     | -47 |     | dBc   |
| 4th Harmonic Isolation   |     | -25 |     | dBc   |

The value of harmonic isolation is compared to input power and harmonic isolation is compared to output power.

#### Mechanical Specifications:

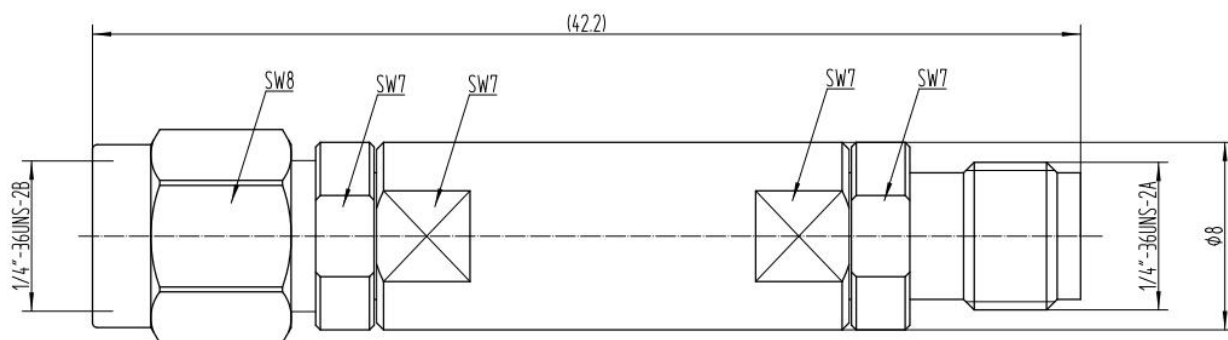
| Parameter        | Value         | Units |
|------------------|---------------|-------|
| Output Connector | 2.92mm Female |       |
| Input Connector  | 2.92mm Male   |       |
| Length           | 42.2          | mm    |

## Absolute Maximum Ratings:

| Parameter             | Value                |
|-----------------------|----------------------|
| RF Input Power        | +29 dBm              |
| ESD sensitivity (HBm) | Class 0, passed 150V |

## Outline Drawing:

Unit:mm



## Environmental Conditions:

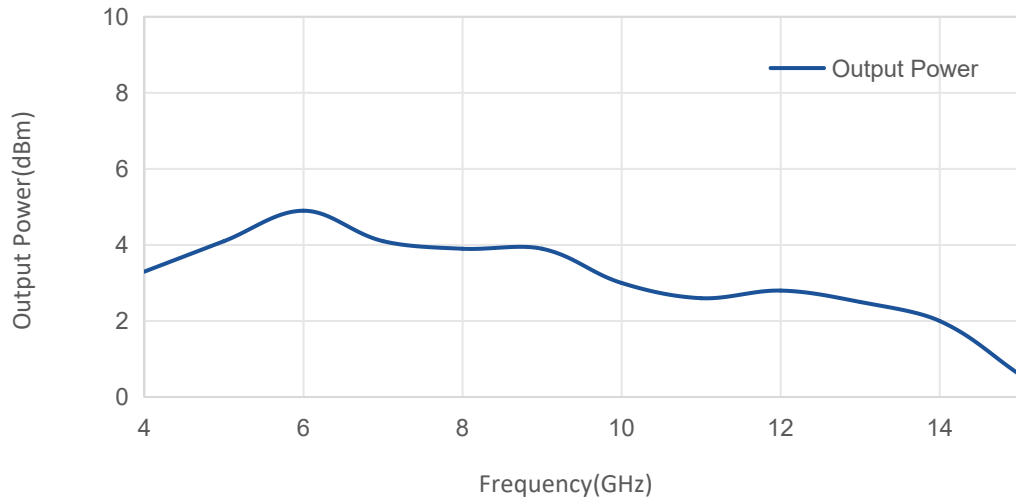
| Parameter                       | Min                                                 | Typ | Max | Units |
|---------------------------------|-----------------------------------------------------|-----|-----|-------|
| Operating Temperature           | -10                                                 |     | +65 | °C    |
| Non-operating Temperature       | -45                                                 |     | +85 | °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:

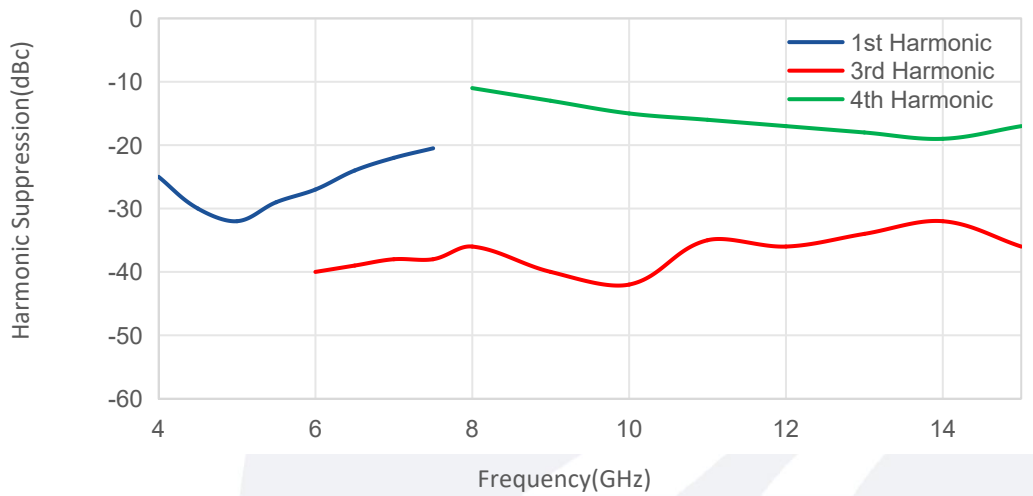
| Base Number      | Description                                                     | Revision |
|------------------|-----------------------------------------------------------------|----------|
| TLPM-0415-0202-K | Passive Multiplier , X2, 4-15GHz ,<br>2 dBm Output Power,2.92mm | Rev.1.1  |

## Typical Performance Data:

### Output Power vs Frequency



### Harmonic Suppression 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.