

Dual Balance Mixer

RF:18-40 GHz/LO:18-40 GHz/IF:DC-18 GHz

Model: TLBM-1840-LS-E

TLBM-1840-LS-E is a dual balance mixer. The mixer covers the LO and RF frequency from 18 to 40 GHz with an extremely broad IF output from DC to 18 GHz. The mixer offers a conversion loss of 13 dB typical and LO input power of 15 dBm typical.

Features:

- RF/LO coverage : 18-40GHz
- IF operation : DC-18GHz
- Conversion loss: 13dB Typ
- High LO to RF isolation
- Dual Balanced Mixer

Applications:

- Defense & federal communications
- Instrumentations

Electrical Characteristics:

| Parameter | Min | Typ | Max | Units |
|--------------------|-----|-----|-----|-------|
| RF Frequency | 18 | | 40 | GHz |
| LO Frequency | 18 | | 40 | GHz |
| LO-Input power | 13 | 15 | 23 | dBm |
| IF Frequency | 0 | | 18 | GHz |
| Input P1dB | | 8 | | dBm |
| Conversion Loss | | 13 | | dB |
| RF to IF Isolation | | 25 | | dB |
| RF to LO Isolation | | 25 | | dB |
| LO to IF Isolation | | 25 | | dB |

Mechanical Specifications:

| Parameter | Value | Units |
|-------------|---------------|-------|
| Connector 1 | 2.92mm Female | |
| Connector 3 | 2.92mm Female | |
| Connector 2 | SMA Female | |
| Size | 23.6*14.4*8 | mm |

Connector Functions:

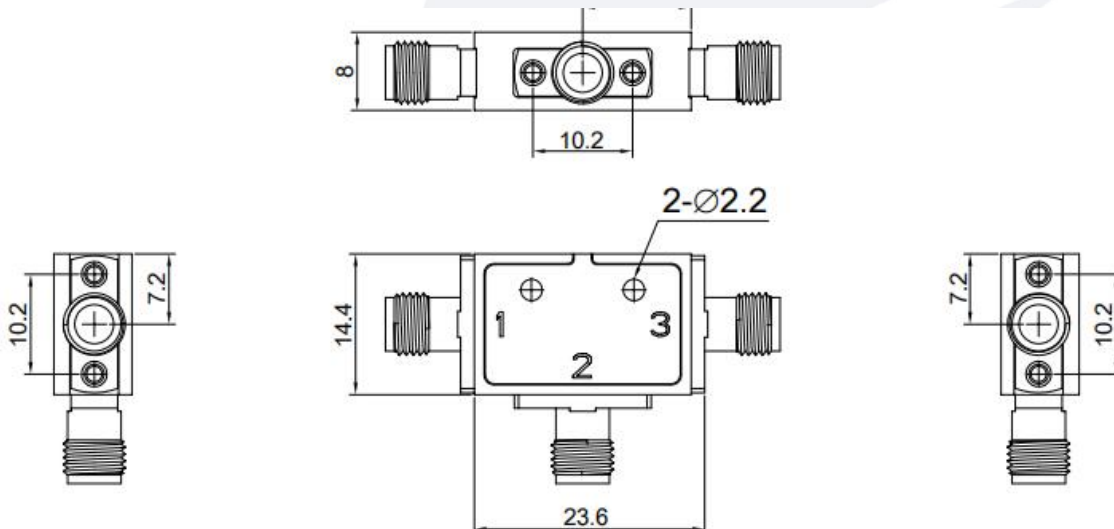
| Port | Function |
|-------------|----------|
| Connector 1 | RF |
| Connector 2 | IF |
| Connector 3 | LO |

Absolute Maximum Ratings:

| Parameter | Value |
|-----------------------|----------------------|
| LO Input Power | 23 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 | | | |

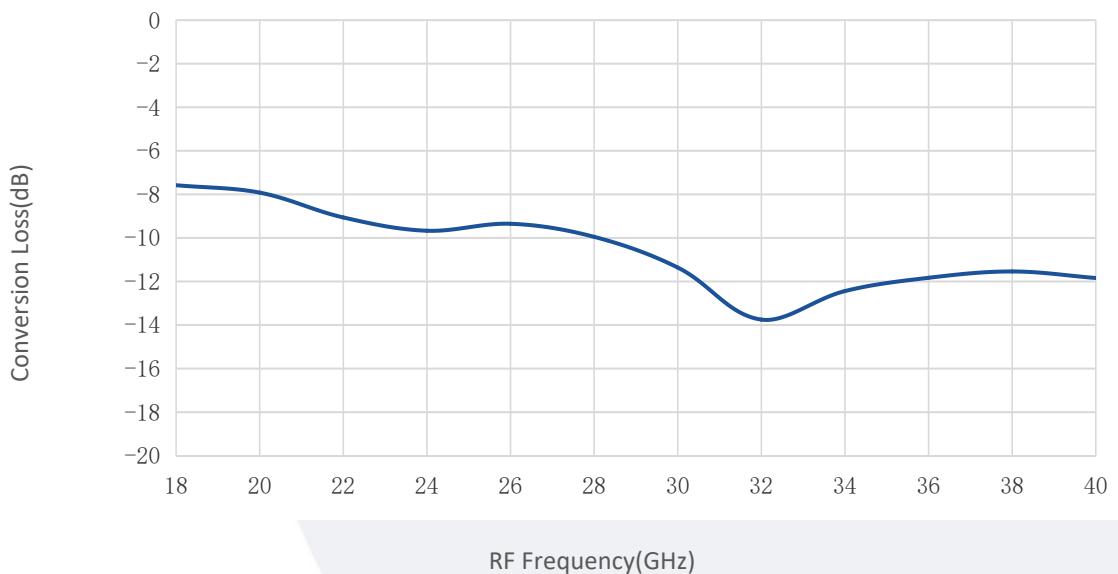
Ordering Information:

| Base Number | Description | Revision |
|----------------|--|----------|
| TLBM-1840-LS-E | Dual Balanced Mixer RF:18-40GHz,LO:18-40GHz,IF:DC-18GHz | Rev.1.0 |

Typical Performance Data:

Conversion Loss vs RF Frequency

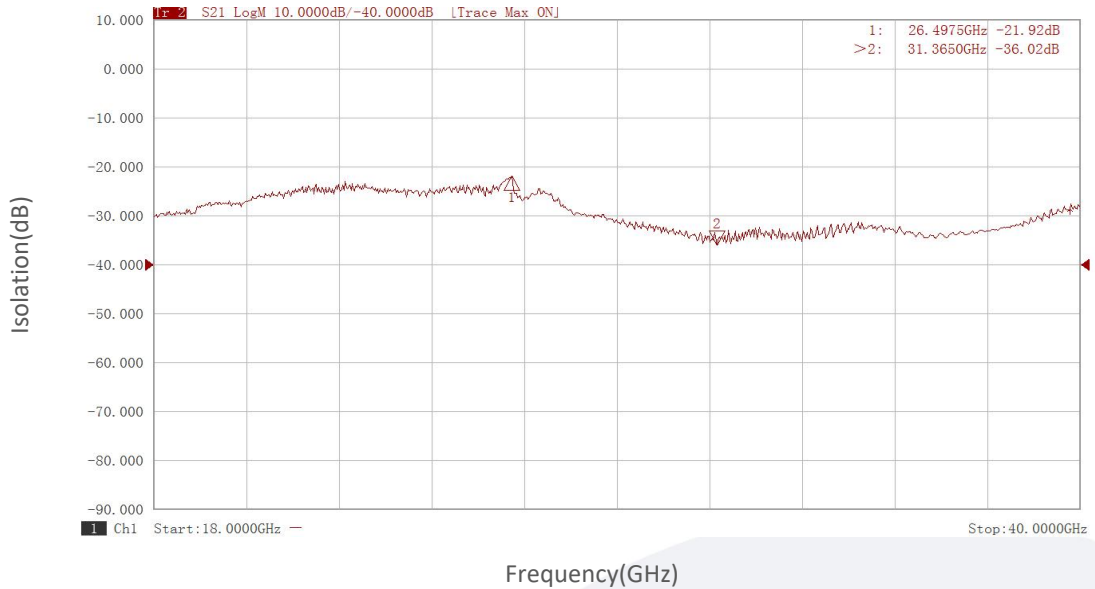
IF=0.1GHz,-10dBm; LO=15dBm



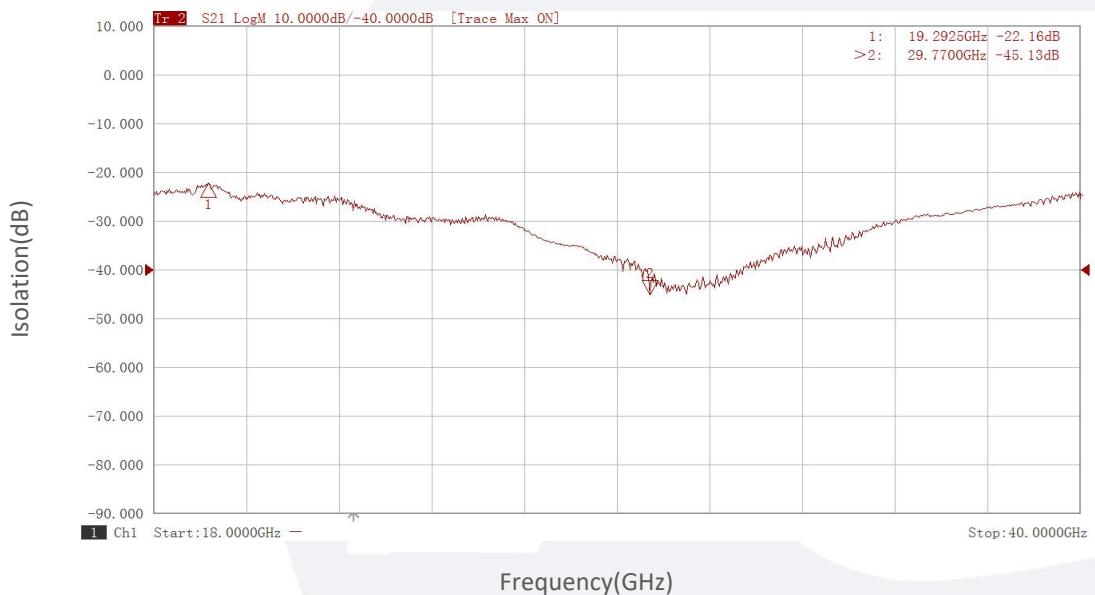
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

LO to IF Isolation vs Frequency



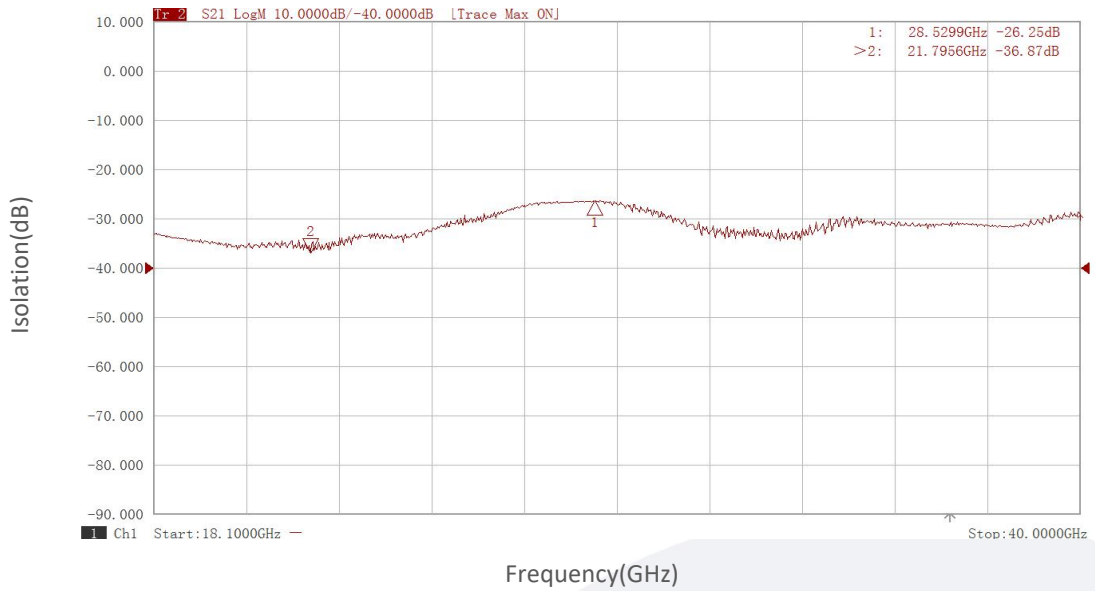
LO to RF Isolation vs Frequency



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:

RF to IF Isolation 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.