

# RF Components Frequently Asked Questions

## Coaxial Resonators and/or Inductors

1. **Tab Material** - Cu Alloy plated with Au & Ni under layer
2. **Type of solder used** - Sn95/Ag5 reflowed between 240 -260 C

Customer Reflow Information	Coax
Reflow peak temperature	260 C Max
Maximum time at peak temperature	3 seconds
Maximum # of Reflow Cycles	3

3. **Moisture Sensitivity Level (MSL)** and **Electrical Sensitive Devices (ESD)** information:

**MSL & ESD:**

Item	MSL	ESDS (HBM)
Coax Resonators	Level 1	3B

Trans-Tech, Inc. "TTI" (a wholly-owned subsidiary of Skyworks) does not test ESDS or MSL for TTI components, therefore, no supporting evidence exists for ESDS or MSL levels.

All our resonators are solid, pore-free, ceramics that do not absorb moisture and are not affected by electrical discharge.

*(Reference Standard IPC.JEDEC J-STD-20 MSL Classifications)*

4. **Electrical Testing** –
  - a. **Coaxial Resonators:** Critically Coupled, S11 Reflection, and measured to 1% AQL test level
  - b. **Inductors:** Inductors are S21 direct coupled measured to 2% tolerance
5. **ROHS elements and PPM levels:** [COAX RoHS Summary](#)
6. **Silver Tarnish:** occurs naturally and can be minimized with silver saver packaging. Tarnish does not affect electrical performance.
7. **Standard Electronic cleaning methods** should be used. During ultrasonic cleaning avoid using high power due to potential component damage.

## Filters

1. **PCB** - Standard FR4 or other PCB material required to meet Filter Specs

2. **Inspection Standards:**

- a. PCB Filters ([TT-PC-0378 PCB Filters](#))
- b. 6mm Filters ([TT-PC-0539 6mm Filters](#))

3. **Customer Reflow Profile -**

Customer Reflow Information	Filters
Reflow peak temperature	260 C Max
Maximum time at peak temperature	3 seconds
Maximum # of Reflow Cycles	2

4. **Moisture Sensitivity Level (MSL)** and **Electrical Sensitive Devices (ESD)** information:

**MSL & ESD:**

Item	MSL	ESDS (HBM)
PCB Filter	Level 1	3B

Trans-Tech, Inc. "TTI" (a wholly-owned subsidiary of Skyworks) does not test ESDS or MSL for TTI components, therefore no supporting evidence exists for ESDS or MSL levels

All our resonators are solid, pore-free, ceramics that do not absorb moisture and are not affected by electrical discharge. PCB may absorb moisture depending on storage conditions. Store filter to prevent filter PCB from absorbing moisture.

*(Reference Standard IPC.JEDEC J-STD-20 MSL Classifications)*

- 5. **Electrical Testing** - Calibrated Network Analyzer Tuned to 50 ohm match
- 6. **Tuning marks (Grinding)** - Material removed from resonators (by grinding) to tune filter to electrical specifications.
- 7. **Standard Electronic cleaning methods** should be used. During ultrasonic cleaning avoid using high power due to potential component damage.

## RoHS Compliance Available Upon Request