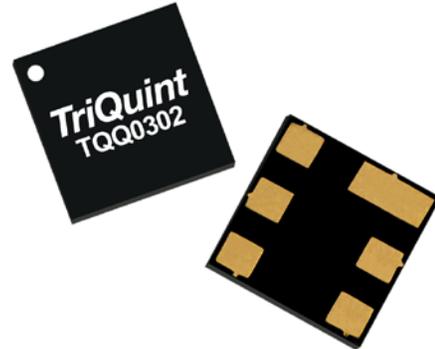


### Applications

- Base Station infrastructure
- Repeaters
- General Purpose Wireless

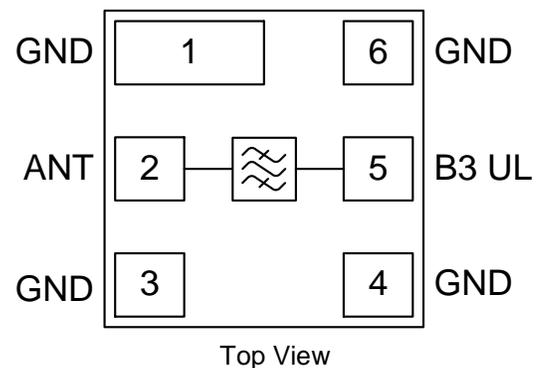


6 Pin 3x3 mm leadless SMT Package

### Product Features

- Usable Bandwidth 75 MHz at 1747.5 MHz
- Internally Match for 50 Ohm Operation
- Small Size: 3.00 x 3.00 x 1.07 mm
- Surface Mount Device
- RoHS compliant, Pb-free
- High power handling of 1W

### Functional Block Diagram



### General Description

The TQQ0302 is an exceptionally high performance BAW filter for the LTE Band 3 uplink. This filter is housed in a compact 3 x 3 mm package for base station applications.

Low insertion loss, coupled with high attenuation makes this filter an ideal choice for uplink RF filtering needs.

The TQQ0302 is part of TriQuint's extensive portfolio of RF BAW and SAW filters.

### Pin Configuration

Pin No.	Label
1,3,4,6	No Connect
2	ANT
5	B3 UL

### Ordering Information

Part No.	Description
TQQ0302	BAW B3 UL Filter Module
TQQ0302-PCB	Evaluation board

Standard T/R size = 2500 pieces per reel

### Absolute Maximum Ratings

Parameter	Rating
Storage Temperature	-40 to 85°C
RF Input Power <sup>1</sup> (Pin 2, 5)	+30 dBm

<sup>1</sup> Input Power: CW, at +55 °C for 10,000 hours.

### Recommended Operating Conditions

Parameter	Min	Typ	Max	Units
T <sub>CASE</sub>	0	-	+70	°C

Electrical specifications are measured at specified test conditions.

### Electrical Specifications – B3 UL

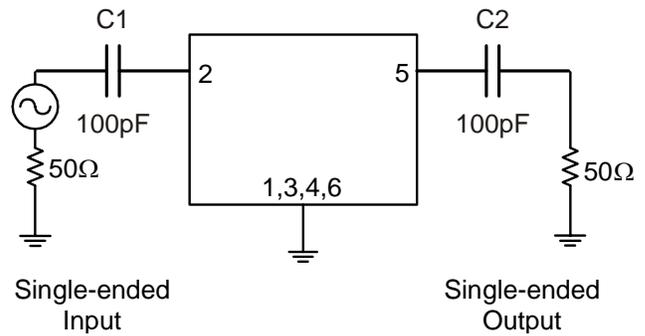
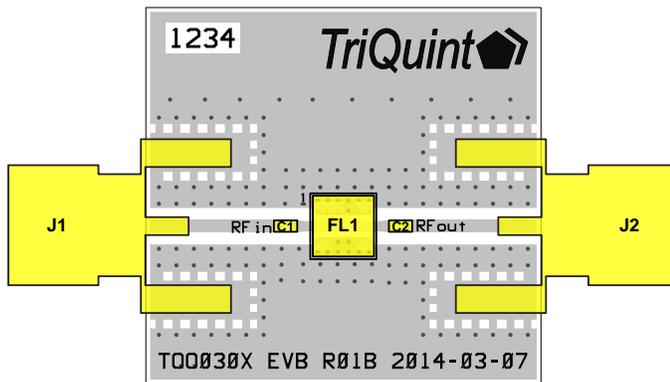
Operating Temperature Range: +0 to +70°C.

Parameter	Conditions	Min	Typ	Max	Units
Center Frequency [fo]		-	1747.5	-	MHz
Insertion Loss	1710 MHz – 1785 MHz	-	2.4	3.3	dB
Amplitude Variation <sup>(1)</sup>	1710 MHz – 1785 MHz	-	1.6	-	dB
Absolute Attenuation	500 MHz – 1200 MHz	25	28	-	dB
	1600 MHz – 1680 MHz	25	36	-	dB
	1795 MHz – 1805 MHz	4.5 <sup>(2)</sup>	6.2	-	dB
	1805 MHz – 2600 MHz	30	36	-	dB
Input Return Loss	1710 MHz – 1785 MHz	9	10.4	-	dB
Output Return Loss	1710 MHz – 1785 MHz	9	11.4	-	dB
Load/Source Impedance		-	50	-	Ω

Notes:

1. Describe the total variation over the defined frequency range
2. At +25°C only.

## TQQ0302-PCB Evaluation Board



## Bill of Material – TQQ0302-PCB

Reference Des.	Value	Description	Manuf.	Part Number
n/a	n/a	Printed Circuit Board	TriQuint	1124609
U1	n/a	Band 3 Uplink BAW Filter	TriQuint	TQQ0302
C1, C2	100 pF	Cap., Chip, 0402, 5%, 50V, NPO/COG	various	various
J1, J2	n/a	SMA Edge Connector	Johnson	142-0701-851

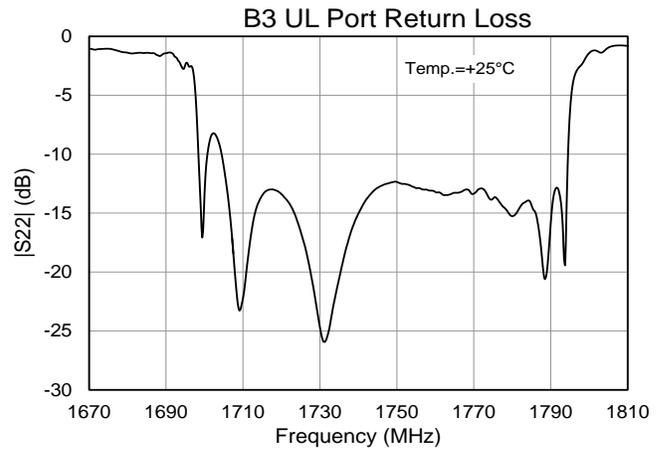
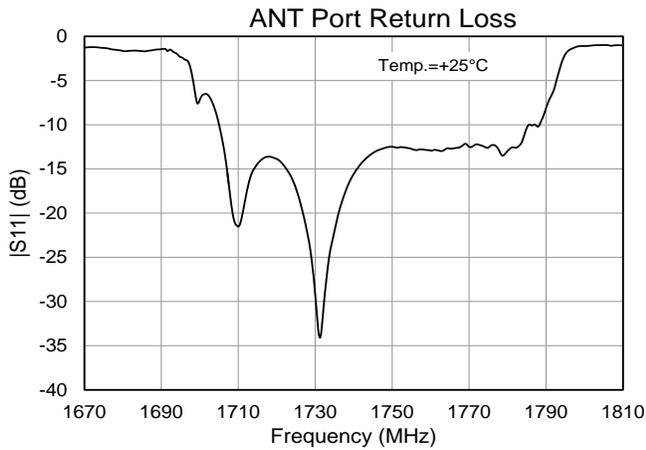
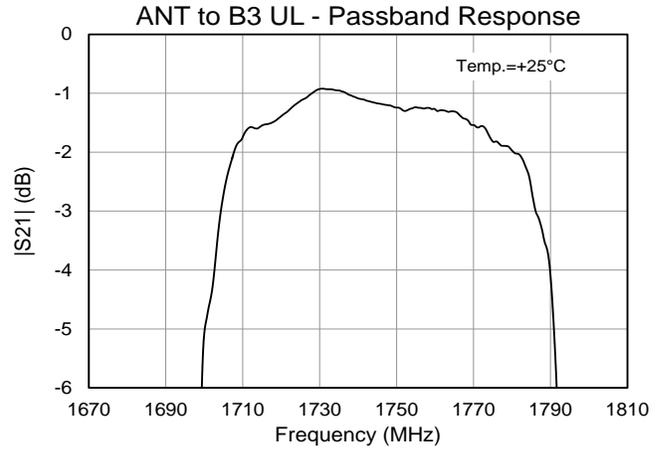
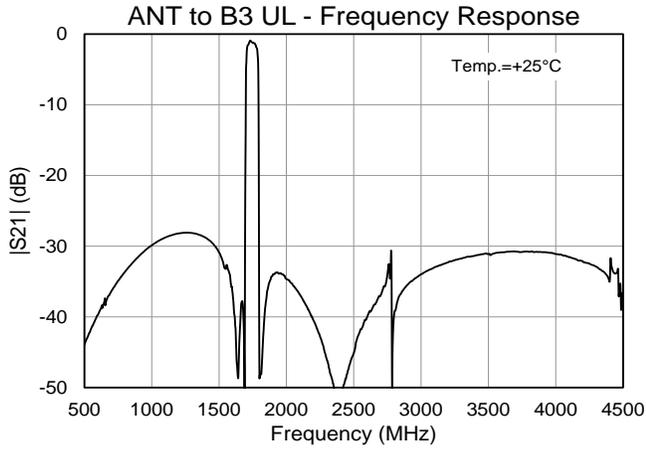
## Evaluation Board PCB Information

Top, middle & bottom layers: 1 oz copper

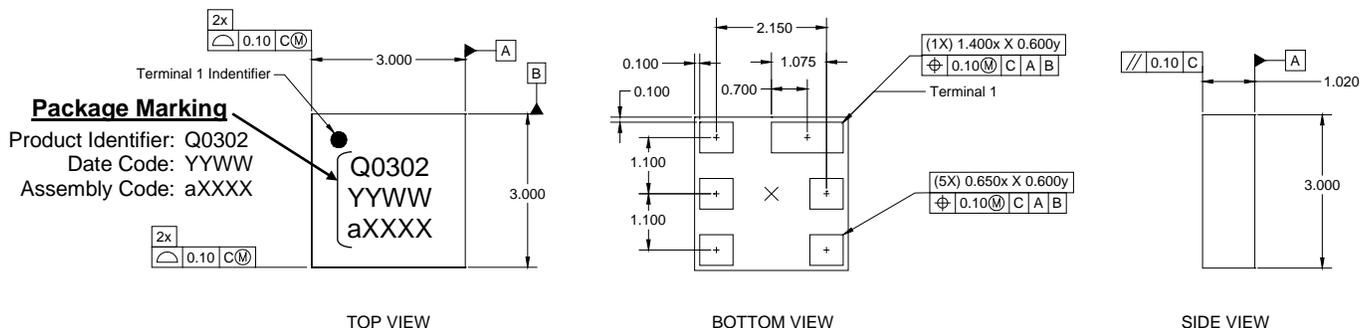
Substrates: FR4 dielectric, 0.0139", 0.028", 0.0139" thick

**Performance Plots – Band 3 UL**

Test conditions unless otherwise noted: Temp= +25°C



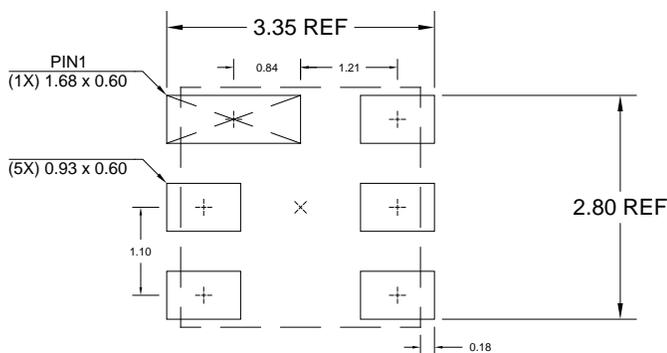
### Package Marking and Dimensions



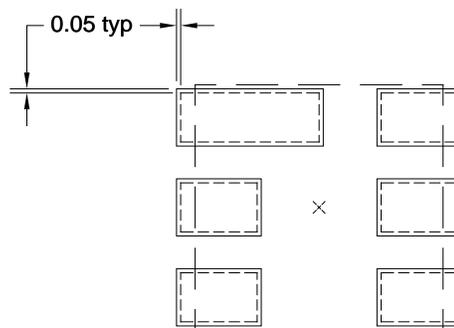
**Notes:**

1. All dimensions are in millimeters. Angles are in degrees.
2. Dimension and tolerance formats conform to ASME Y14.4M-1994.
3. The terminal #1 identifier and terminal numbering conform to JESD 95-1 SPP-012.

### PCB Mounting Pattern



Top view recommended land pattern metallization.



Top view recommended land pattern stencil aperture.

**Notes:**

1. All dimensions are in millimeters. Angles are in degrees.
2. Use 1 oz. copper minimum for top and bottom layer metal.

## Product Compliance Information

### ESD Sensitivity Ratings



Caution! ESD-Sensitive Device

ESD Rating: Class 1C  
Value: Passes > 1000 V to < 2000 V  
Test: Human Body Model (HBM)  
Standard: JEDEC Standard JS-001-2012

ESD Rating: Class B  
Value: Passes > 200 V to < 400 V  
Test: Machine Model (MM)  
Standard: JEDEC Standard JESD22-C101

### MSL Rating

MSL Rating: Level 3  
Test: 260°C convection reflow  
Standard: JEDEC Standard IPC/JEDEC J-STD-020

### Solderability

Compatible with both lead-free (260°C maximum reflow temperature) and tin/lead (245°C maximum reflow temperature) soldering processes.

Contact plating: Electrolytic Ni/Au

### RoHS Compliance

This part is compliant with EU 2002/95/EC RoHS directive (Restrictions on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment).

This product also has the following attributes:

- Lead Free
- Halogen Free (Chlorine, Bromine)
- Antimony Free
- TBBP-A (C<sub>15</sub>H<sub>12</sub>Br<sub>4</sub>O<sub>2</sub>) Free
- PFOS Free
- SVHC Free

## Contact Information

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