

### Description

YTLD1702C is a high performance duplexer designed for applications in LTE Band 3 (1710 – 1785 MHz UL, 1805 – 1880 MHz DL).

YTLD1702C is designed with Film Bulk Acoustic Resonator (FBAR) technology, which provides high-Q filters and meet requirements of low insertion loss, high out-of-band attenuation, high power handling and stringent linearity.

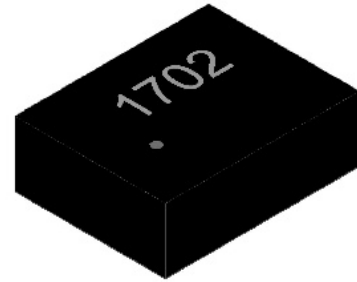
YTLD1702C uses chip scale packaging (CSP) technology to assembly the filters into a molded chip-on-board module with the footprint of 1.8mm x 1.4mm and height of 0.61mm.

### Features

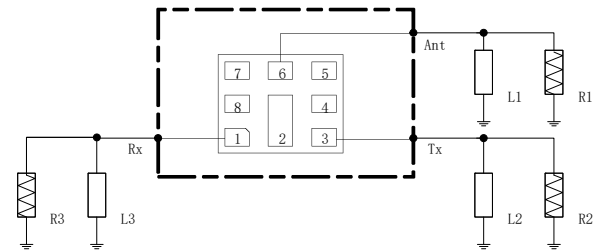
- Miniature Size  
1.8 mm x 1.4 mm x 0.61 mm
- Low insertion loss
  - TX band, 1710-1785MHz: 1.5dB Typ.
  - RX band, 1805-1880MHz: 1.8dB Typ.
- High Isolation
  - TX isolation: 60dB Typ.
  - RX isolation: 58dB Typ.
- Input power
  - +29 dBm CW for 5000h @ +55 deg.C
- Single-ended(SE) 50ohm receive & transmit ports
- Storage Temperature: -40 to +85 deg.C

### Environmental

- Full implement with RoHS compliant
- Lead Free (Pb free)



### Functional Block Diagram (Top Thru View)



Reference Des.	Value	Description	Manuf.
R1	50ohm		
R2	50ohm		
R3	50ohm		
L1	3nH	Ideal inductor	
L2	7.5nH	Ideal inductor	
L3	5.1nH	Ideal inductor	

### Pin Connection

No.	Function
1	Rx
3	Tx
6	Ant
2,4,5,7,8	Ground



## Electrical Specification

Transmit Port to Antenna Port				
Parameter(Operable Temperature: -20 to +85 deg.C)	Min	Typ*	Max	Unit
<b>Insertion Loss</b> (1710~1785MHz)	\	1.5	2.5	dB
<b>Ripple</b> (1710~1785MHz)	\	0.4	1 <sup>(1)</sup>	dB
<b>VSWR</b> (1710~1785MHz,ANT)	\	1.3	1.5	\
<b>VSWR</b> (1710~1785MHz,TX)	\	1.3	1.5	\
Absolute Attenuation				
(10~1565.4MHz)	30	45	\	dB
Wideband GPS (1565.4~1573.4MHz)	40	43	\	dB
Regular GPS (1573.4~1577.5MHz)	40	43	\	dB
Wideband GPS (1577.5~1585.4MHz)	40	44	\	dB
GLONASS (1597.6~1605.9MHz)	42	48	\	dB
(1605.9~1680MHz)	8	40	\	dB
RX Band (1805~1880MHz)	43	53	\	dB
Band1 RX (2110~2170MHz)	36	40	\	dB
ISM Band (2400~2500MHz)	42	46	\	dB
Band7 RX (2620~2690MHz)	36	40	\	dB
(3420~3570MHz, <b>2f0</b> )	30	34	\	dB
(5130~5355MHz, <b>3f0</b> )	15	17	\	dB
Antenna Port to Receive Port				
Parameter(Operable Temperature: -20 to +85 deg.C)	Min	Typ*	Max	Unit
<b>Insertion Loss</b> (1805~1880MHz)	\	1.8	3.5	dB
<b>Ripple</b> (1805~1880MHz)	\	0.5	1 <sup>(1)</sup>	dB
<b>VSWR</b> (1805~1880MHz,ANT)	\	1.6	1.9	\
<b>VSWR</b> (1805~1880MHz,RX)	\	1.6	1.9	\
Absolute Attenuation				
(10~1710MHz)	25	50	\	dB
TX Band (1710~1785MHz)	43	60	\	dB
(1920~6000MHz)	30	45	\	dB
ISM Band (2400~2500MHz)	44	50	\	dB
Band7 TX (2500~2570MHz)	47	51	\	dB
(2570~3515MHz)	50	55	\	dB
(3515~3760MHz, <b>2f0</b> )	50	53	\	dB
ISM 5G (4900~5950MHz)	31	39	\	dB
(5205~5660MHz, <b>3f0</b> )	32	36	\	dB



Parameter(Operable Temperature: -20 to +85 deg.C)	Min	Typ*	Max	Unit
<b>Transmit Port to Receive Port</b>				
<b>Isolation</b>				
1710~1785MHz	50	60	\	dB
1805~1880MHz	50	58	\	dB

\*Data is the integrated value of the linear s-parameter over indicated band.

(1) Data is the integrated Max value of the linear S-parameter over 5MHz.



## Typical Performance at Tc=25 deg.C

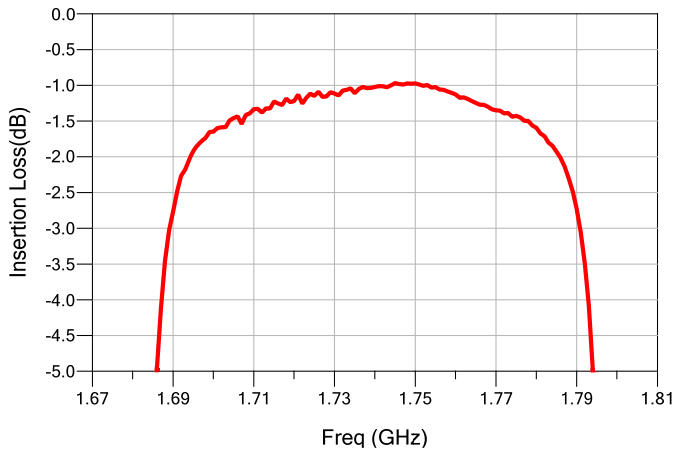


Figure1. TX-ANT Passband

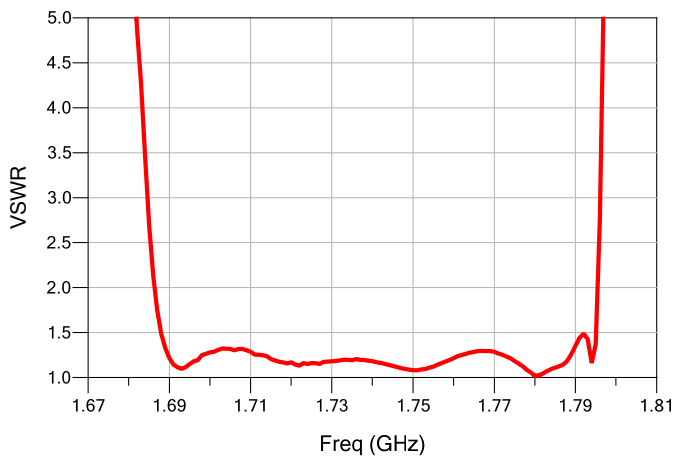


Figure3. TX Port VSWR

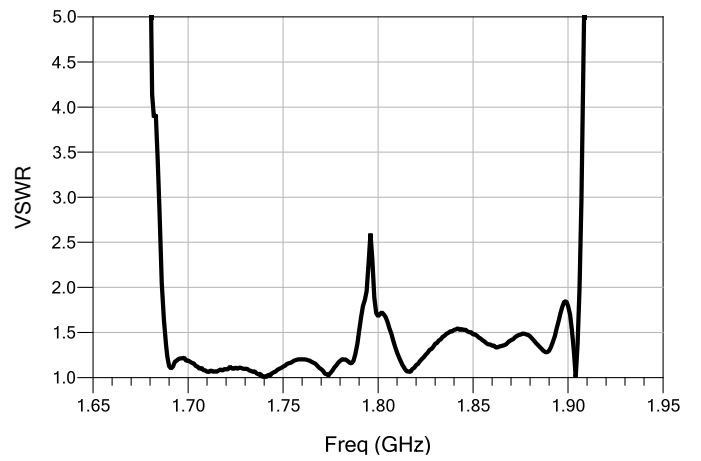


Figure5. ANT Port VSWR

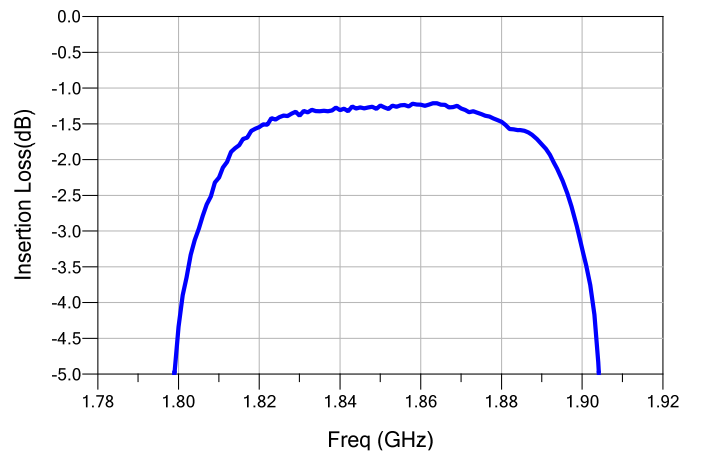


Figure2. ANT-RX Passband

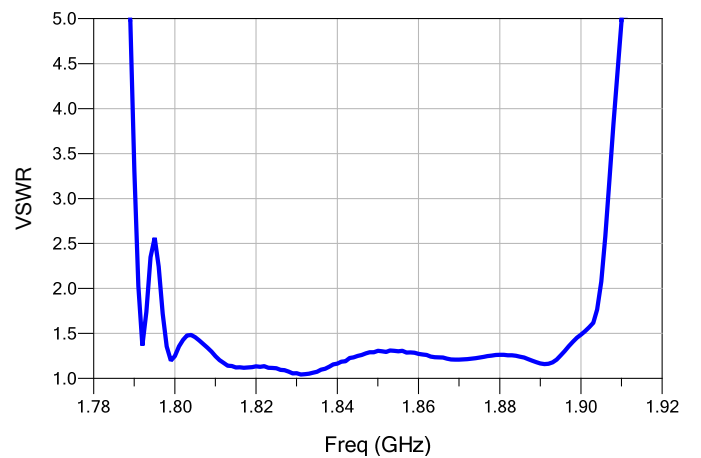
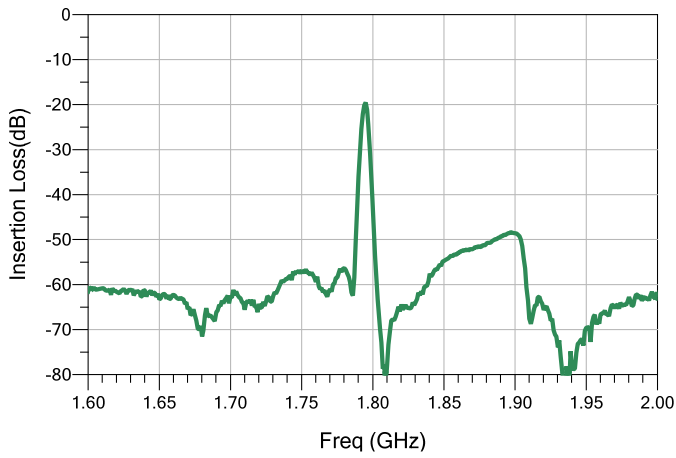
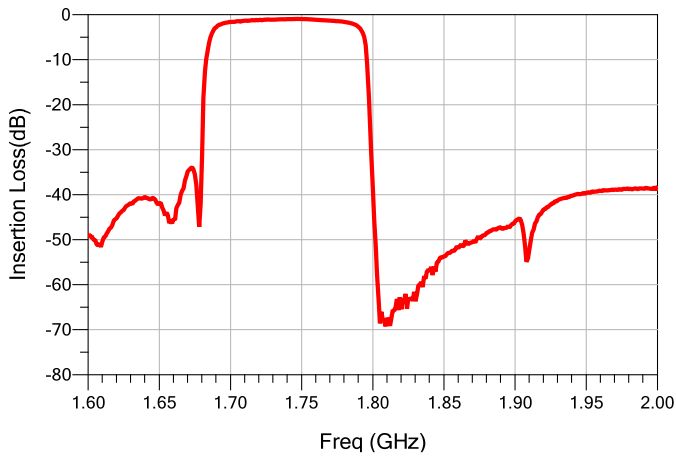


Figure4. RX Port VSWR

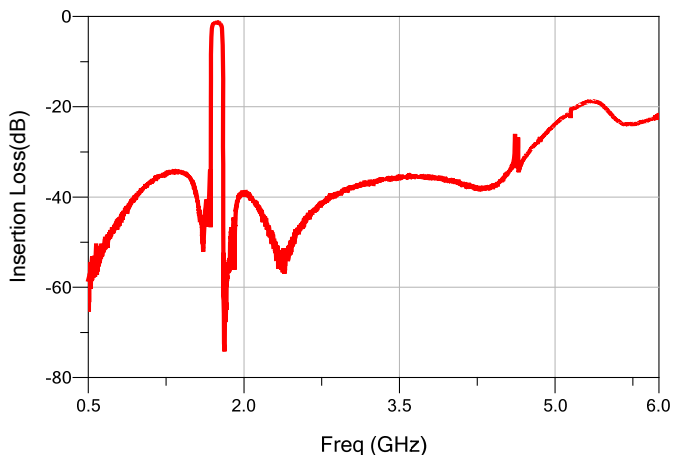




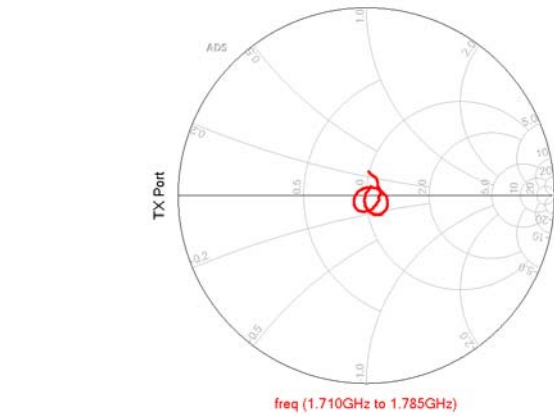
**Figure6. TX RX Isolation**



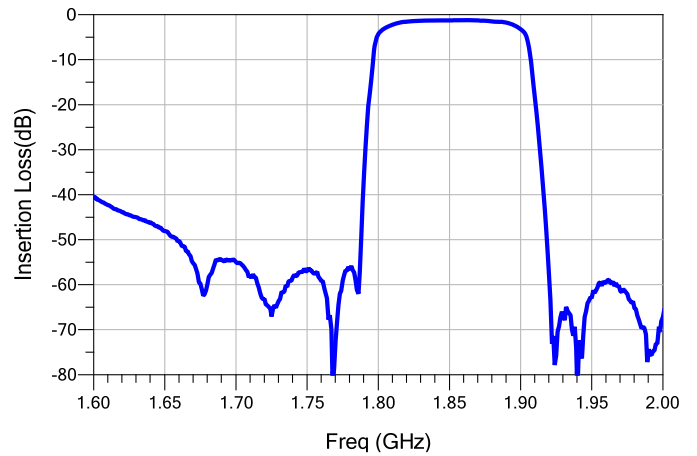
**Figure7. TX-ANT**



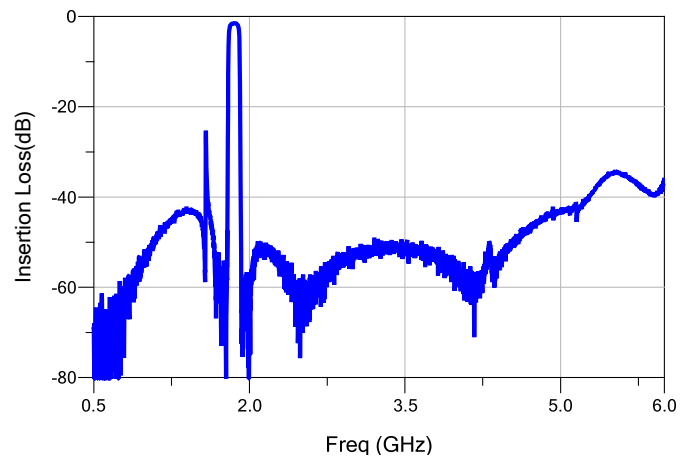
**Figure9. TX-ANT Wideband**



**Figure11. TX Port (TX Passband) Smith Chart**



**Figure8. ANT-RX**



**Figure10. ANT-RX Wideband**





1. Dimension: mm
2. Dimensions nominal unless otherwise noted
3. Contact area are gold plated
4. Pad(1) (2) is single size, others are same size
5. 1702 is product code

6	Ant
2,4,5,7,8	Ground

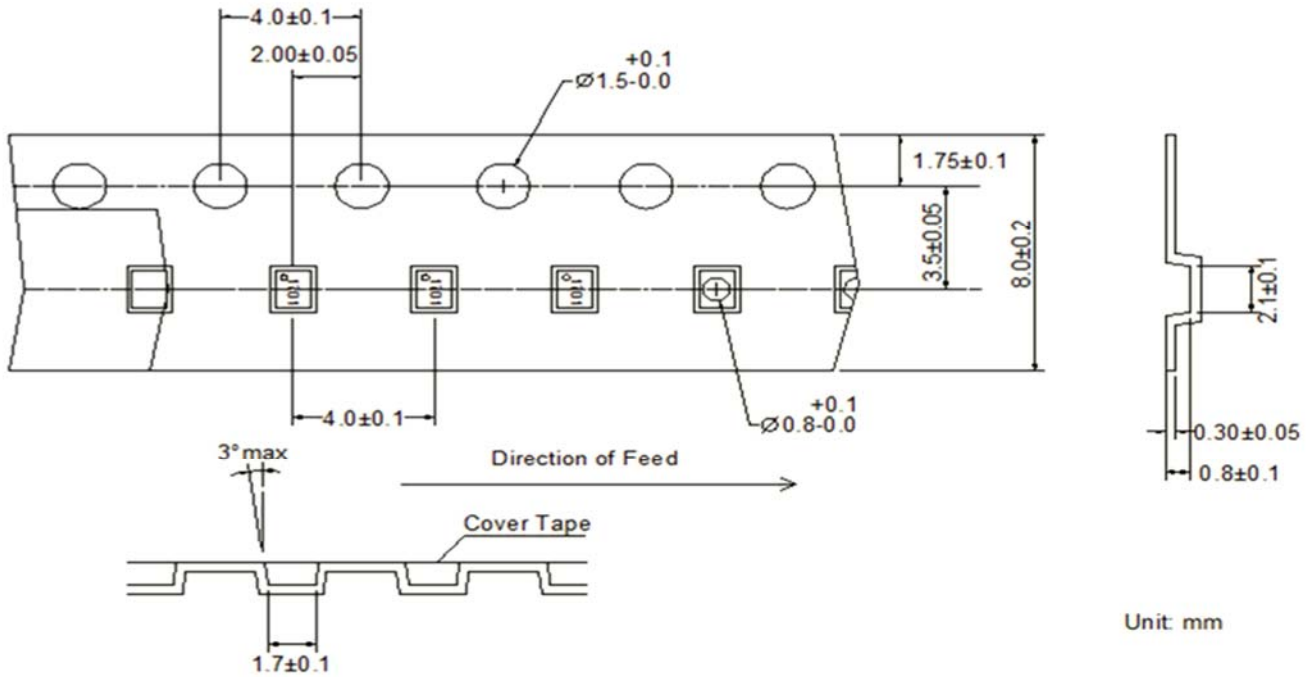
### Order Information

P/N	Qty/Reel	Container
YTLD1702C	4000	7 inch Reel



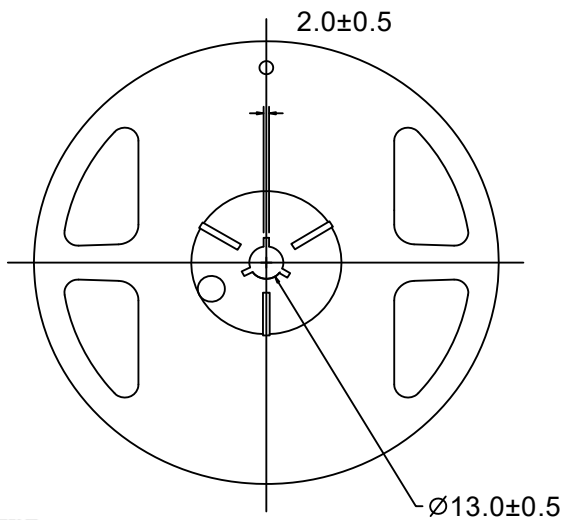
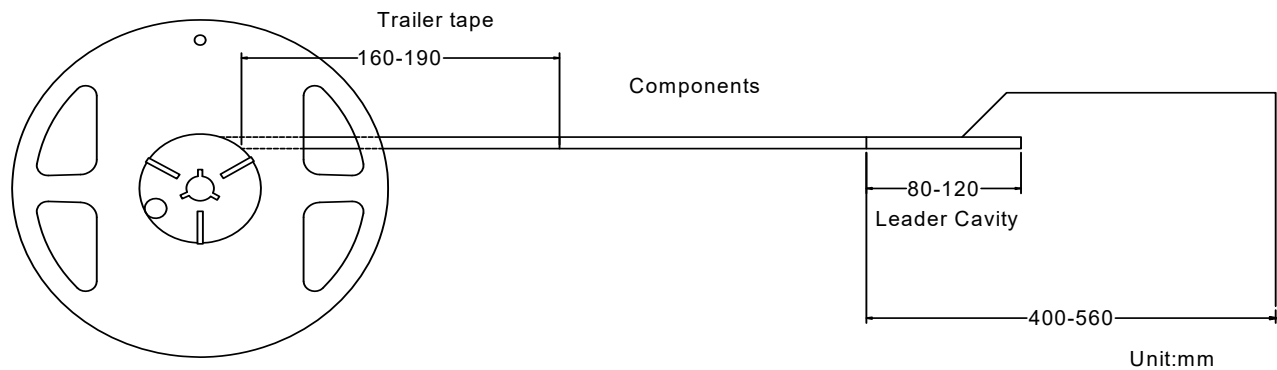
## Packing

### 1. Tape Dimension



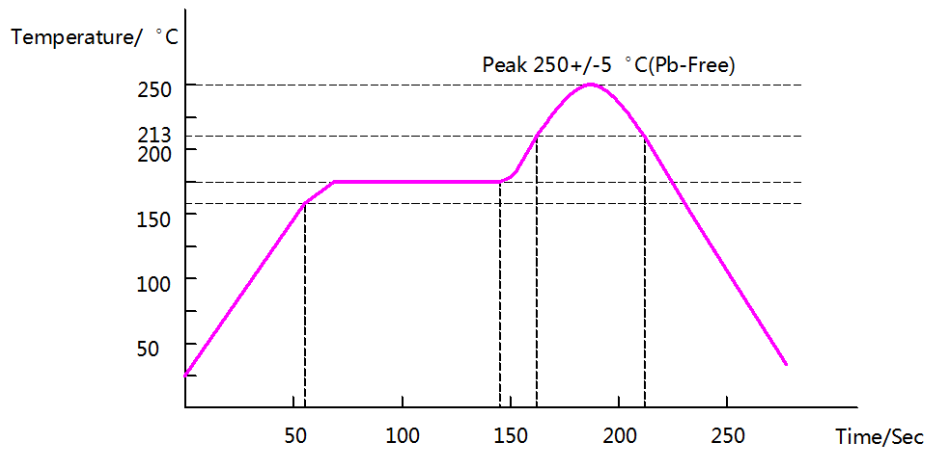
### 2. Reel Dimension

4000Pcs/Reel





## Recommended Reflow Profile



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