

# USD002A - PRELIMINARY

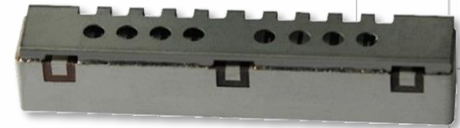
## Band 2 USD Series Duplexer

### Features

- Low Loss with High Rejection
- Superior power handling and reliability
- Universal footprint across all FDD frequency bands

### Applications

- Wireless Infrastructure applications
- High-performance carrier-grade small-cells using linearized PA for 1.0-2.0W at the antenna port.
- Wide-band pico-cells or small-cells requiring multi-channel or carrier aggregation.



Part Dimensions: 63.0 × 11.0 × 12.0 mm • 20.8 g  
Materials: Ag plated ceramic block with tin plated brass shield

### Description

Surface mount ceramic duplexer supports a universal footprint across all FDD frequency bands enabling the use of a common system PCB. Provides superior rejection, insertion loss, reliability, as well as both peak and average power handling compared to other duplexer technologies.

### Electrical Specifications

Parameter	Frequency (MHz)	Typical at 25°C	Spec. at 25°C	Spec. over -40°C to +85°C
Nominal Impedance	-	50 ohms	-	-
Average Input Power	-	-	-	6.0 Watt max
Peak Input Power	-	-	-	60 Watt max

#### Antenna to UL Response

Passband Insertion Loss (5 MHz avg)	1850 - 1910	2.2 dB	2.5 dB max	2.6 dB max
Passband Insertion Loss (single point)	1850 - 1910	2.9 dB	3.0 dB max	3.2 dB max
Passband Return Loss	1850 - 1910	14 dB	12 dB min	12 dB min
Attenuation:	1930 - 1990	67 dB	64 dB min	64 dB min

#### DL to Antenna Response

Passband Insertion Loss (5 MHz avg)	1930 - 1990	2.2 dB	2.5 dB max	2.6 dB max
Passband Insertion Loss (single point)	1930 - 1990	2.7 dB	2.8 dB max	3.2 dB max
Passband Return Loss	1930 - 1990	14 dB	12 dB min	12 dB min
Attenuation:	1850 - 1910	71 dB	70 dB min	70 dB min

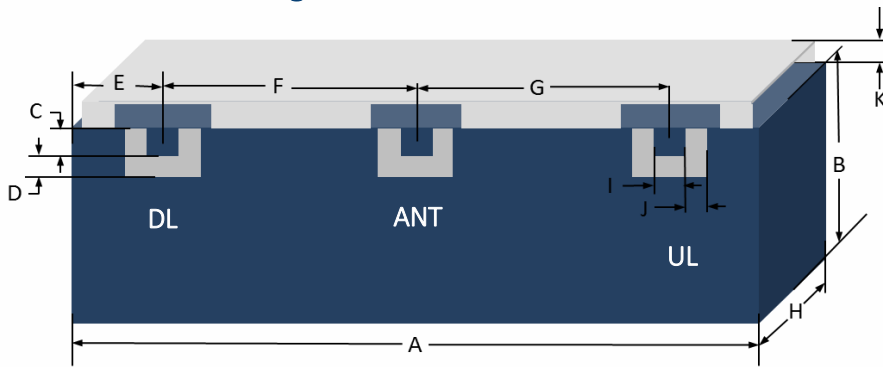
#### DL to UL Response

Attenuation for UL band	1850 - 1910	72.0 dB	70.0 dB min	70.0 dB min
Attenuation for DL band	1930 - 1990	67.0 dB	64.0 dB min	64.0 dB min

Note: CTS tests each unit to the critical specifications above. Subsequent audits may deviate due to repeatability among different test systems which shall not exceed these allowances.

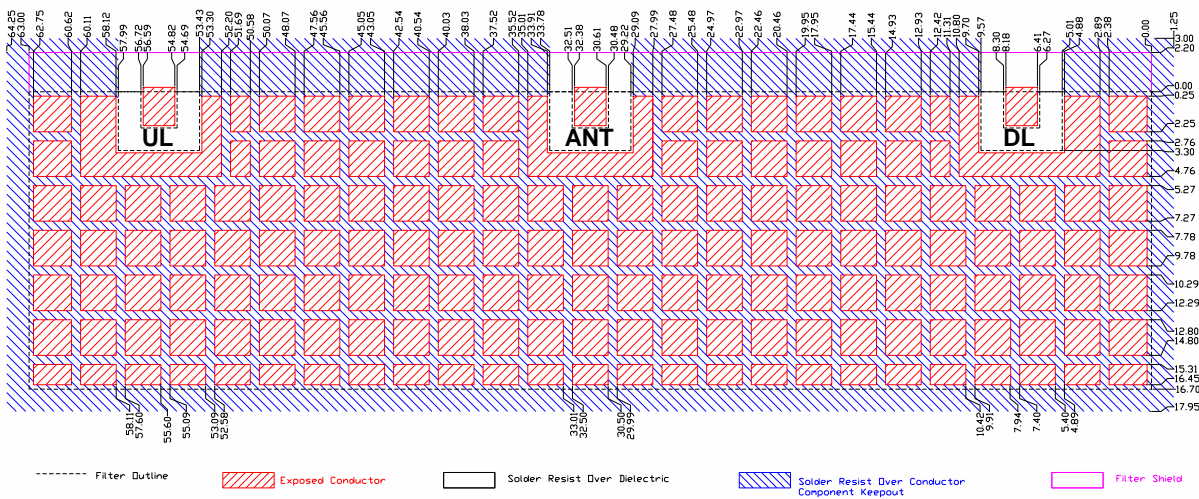
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

### Mechanical Drawing

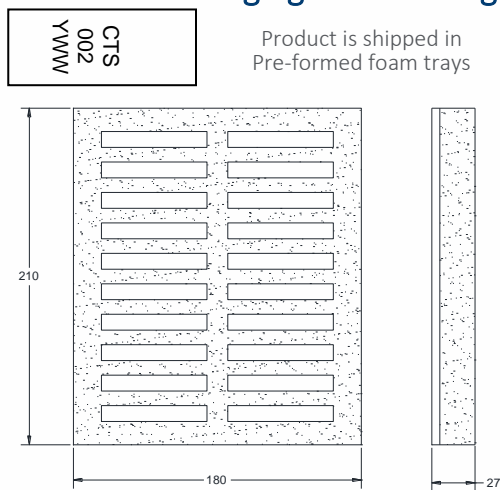


Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	63.00	Max
B	9.00	Max
C	2.03	0.13
D	1.27	0.13
E	6.49	0.13
F	24.21	0.13
G	24.21	0.13
H	12.00	Max
I	2.03	0.13
J	1.27	0.13
K	2.00	Max

### PCB Layout



### Packaging and Marking



The trays have 20 slots each with 1 filter per slot. Boxes are packed with 12 Trays per box for a total of 240 filters per box.

### Electrical Response

