

# UPD003B

## Band 3 UPD Series Duplexer

### Features

- Low Loss with High Rejection
- Superior power handling and reliability
- Universal footprint across all FDD frequency bands
- Sufficient rejection for co-location with Band 1

### Applications

- Wireless Infrastructure applications
- High-performance carrier-grade Pico-cells using linearized PA for 0.25-0.5W and linear PA to 1.0W at the antenna port.
- Wide-band femto-cells or pico-cells requiring multi-channel or carrier aggregation.



Part Dimensions: 44.2 × 10.4 × 8.5 mm • 12.2 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	-	-	-	3.0 Watt max
Peak Input Power	-	-	-	30 Watt max

#### Antenna to UL Response

Passband Insertion Loss (5 MHz avg)	1710-1785	2.7 dB	2.9 dB max	3.0 dB max
Passband Ripple (20 MHz avg)	1710-1785	2.2 dB	3.0 dB max	3.0 dB max
Passband Return Loss	1710-1785	14 dB	12 dB min	12 dB min
Attenuation:	1805-1880	58 dB	55 dB min	55 dB min

#### DL to Antenna Response

Passband Insertion Loss (5 MHz avg)	1805-1880	2.7 dB	2.9 dB max	3.0 dB max
Passband Ripple (20 MHz avg)	1805-1880	2.2 dB	3.0 dB max	3.0 dB max
Passband Return Loss	1805-1880	14 dB	12 dB min	12 dB min
Attenuation:	1710-1785	61 dB	60 dB min	60 dB min
	1920-1980	26 dB	25 dB min	25 dB min

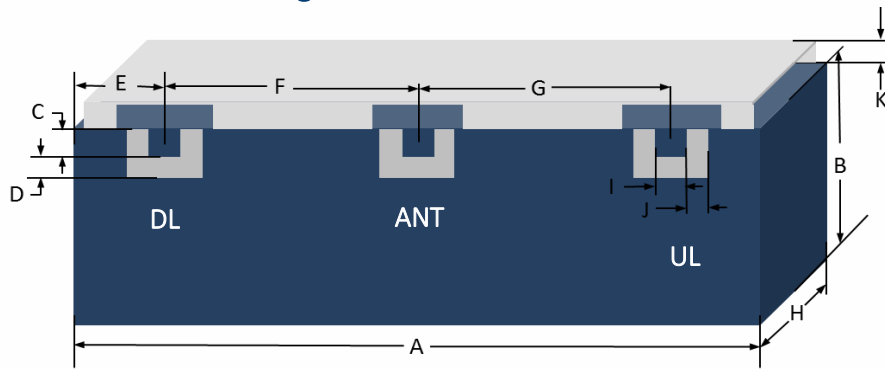
#### DL to UL Response

Attenuation for UL band	1710-1785	62 dB	61 dB min	61 dB min
Attenuation for DL band	1805-1880	59 dB	56 dB min	56 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.

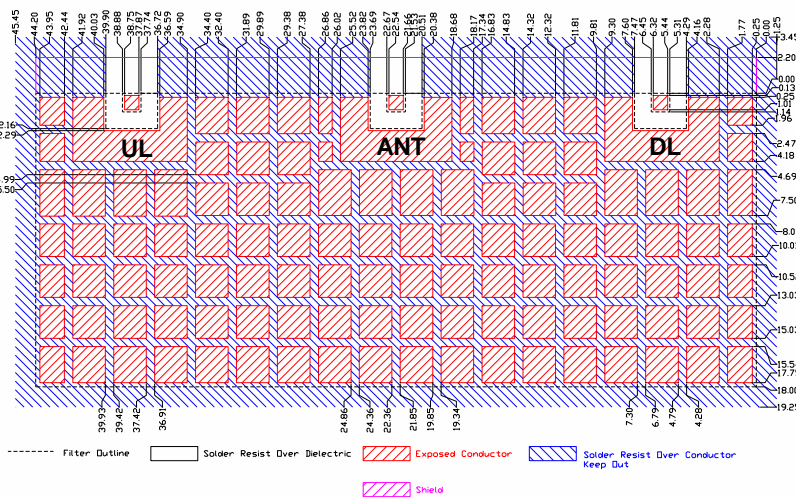
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

### Mechanical Drawing



Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	43.90	0.30
B	8.40	0.30
C	1.10	0.13
D	1.10	0.13
E	5.88	0.13
F	16.22	0.13
G	16.22	0.13
H	8.30	0.20
I	1.00	0.13
J	1.00	0.13
K	1.50	0.13

### PCB Layout

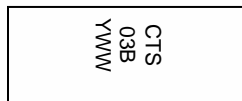


**IMPORTANT:** Please assure  $\geq 20$  mils (0.5mm) thickness of dielectric beneath the I/O Pads and the surrounding clearance zone down to the required ground plane.

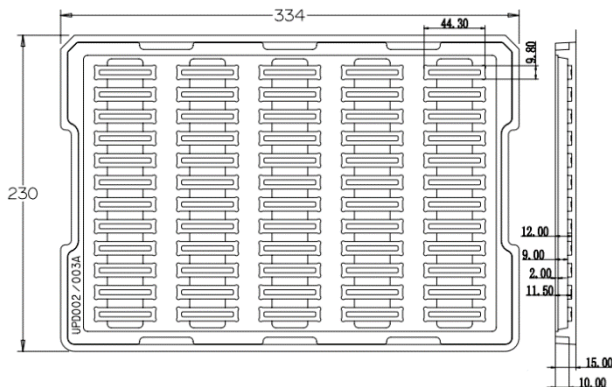
Please assure sufficient ground vias between the top metal ground plane and the primary ground plane.

Recommended solder: 4-6 mils of SAC305 with reflow incl. 120s of soak at 217°C, and up to 30 sec peak at 241°C.

### Packaging and Marking



Product is shipped in thermo-formed plastic trays



The trays have 60 slots each with one filter per slot. Boxes are packed with 4 Trays per box for a total of 240 filters per box.

### Electrical Response

