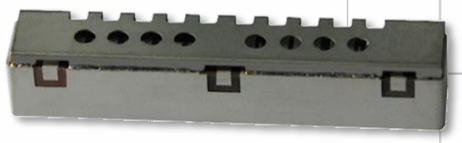
UPD215A - preliminary

2025-2110 vs 2200-2300MHz 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 3



Part Dimensions: 40.1 × 10.5 × 8.3 mm • 10.3 g
Materials: Ag plated ceramic block with tin plated brass shield

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.

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.

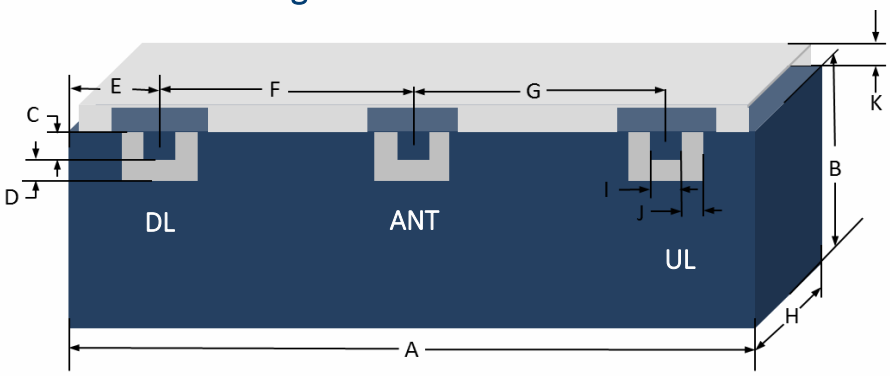
Electrical Specifications

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)	2025-2110	1.4 dB	1.5 dB max	1.7 dB max
Passband Return Loss	2025-2110	15 dB	14 dB min	14 dB min
Attenuation:	2200-2300	52 dB	50 dB min	50 dB min
DL to Antenna Response				
Passband Insertion Loss (5 MHz avg)	2200-2300	1.4 dB	1.5 dB max	1.7 dB max
Passband Return Loss	2200-2300	15 dB	14 dB min	14 dB min
Attenuation:	2025-2110	52 dB	50 dB min	50 dB min
DL to UL Response				
Attenuation for UL band	2025-2110	53 dB	50 dB min	50 dB min
Attenuation for DL band	2200-2300	53 dB	50 dB min	50 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.

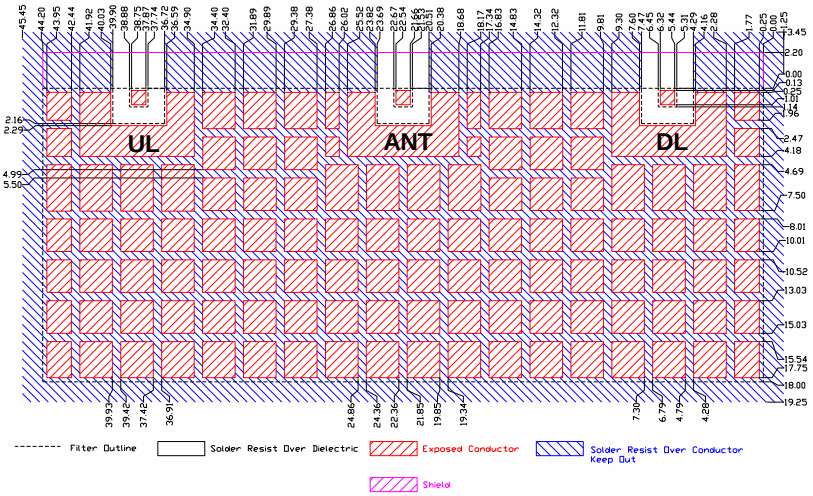
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

Mechanical Drawing



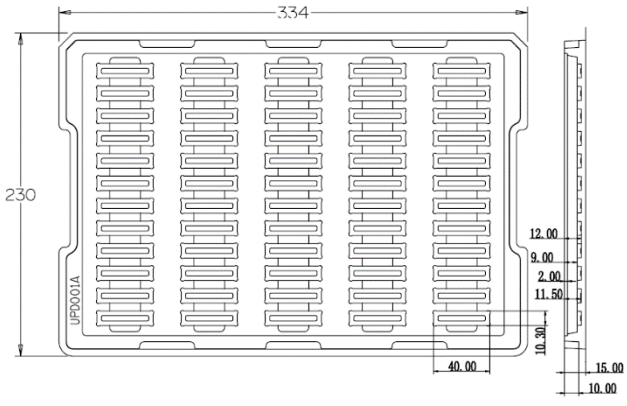
Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	39.75	0.30
B	8.10	0.30
C	1.10	0.13
D	1.10	0.13
E	3.66	0.13
F	16.22	0.13
G	16.22	0.13
H	8.10	0.20
I	1.00	0.13
J	1.00	0.13
K	1.50	0.20

PCB Layout



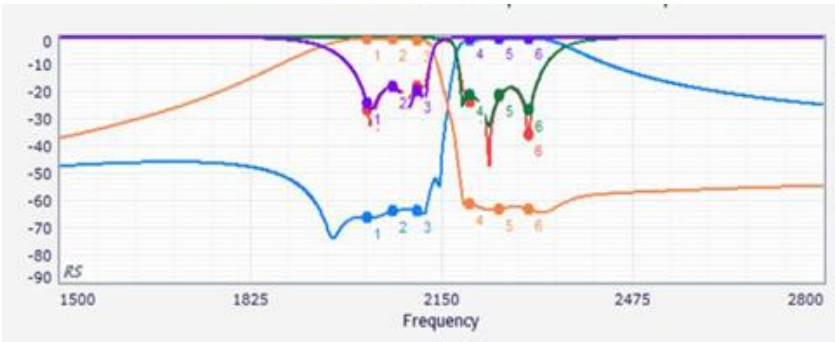
Packaging and Marking

Product is shipped in thermo-formed plastic trays



The trays have 60 slots each with one filter per slot. Boxes are packed with 9 Trays per box for a total of 540 filters per box.

Electrical Response



Marker	1	2	3	4	5	6
Freq[MHz]	2025	2068	2110	2200	2250	2300
S11[dB](1	-26.9	-18.4	-18.4	-23.8	-21.9	-36
S21[dB](1	-66.3	-64	-63.7	-1.27	-0.652	-0.509
S22[dB](1	-0.239	-0.284	-0.351	-21.4	-21.3	-26.7
S31[dB](1	-0.501	-0.674	-1.08	-61.2	-63	-63.2
S33[dB](1	-24	-18.3	-19.6	-0.238	-0.128	-0.0851