UPD010A

Band 10+ UPD Series Duplexer

Features

- Symmetric subset of Band 66 and expanded version of Band 4
- Low Loss with High Rejection
- Superior power handling and reliability
- Universal footprint across all FDD frequency bands

Part Dimensions: 40.0 × 10.5 × 8.5 mm • 10.7 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.

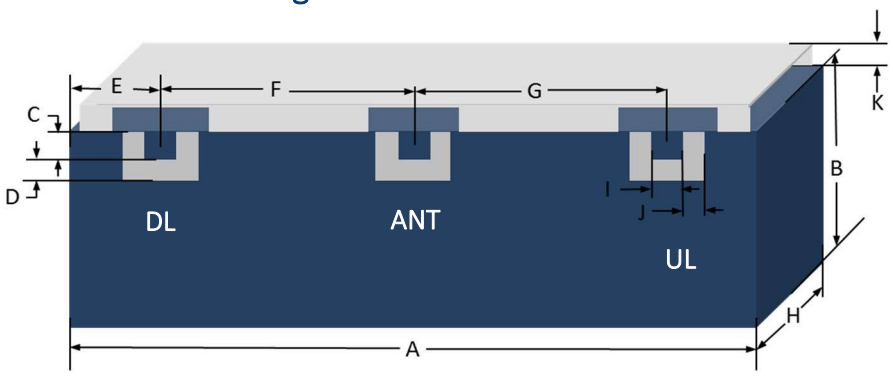
Electrical Specifications

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)	1710-1780	1.0 dB	1.2 dB max	1.3 dB max
Passband Return Loss	1710-1780	14 dB	12 dB min	12 dB min
Attenuation:	2110-2180	70 dB	60 dB min	60 dB min
DL to Antenna Response				
Passband Insertion Loss (5 MHz avg)	2110-2180	1.3 dB	1.5 dB max	1.7 dB max
Passband Return Loss	2110-2180	13 dB	12 dB min	12 dB min
Attenuation:	1710-1780	63 dB	62 dB min	62 dB min
DL to UL Response				
Attenuation for UL band	1710-1780	64 dB	62 dB min	62 dB min
Attenuation for DL band	2110-2180	69 dB	60 dB min	60 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.

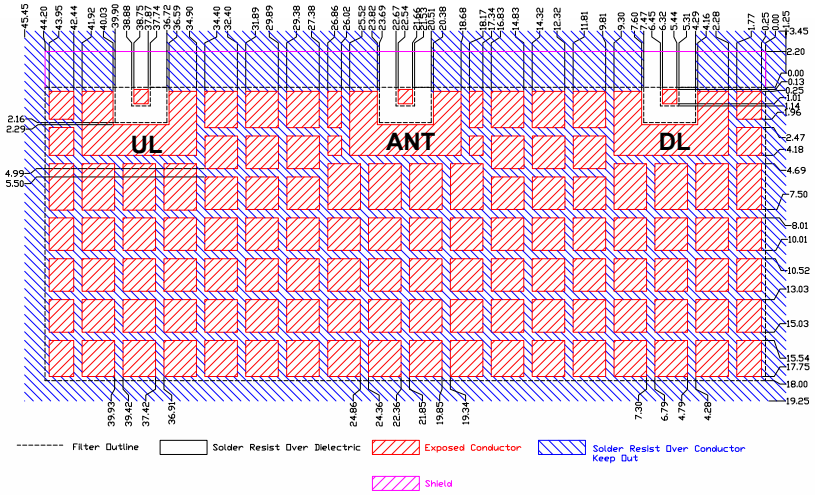
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

Mechanical Drawing



Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	39.75	0.25
B	8.50	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

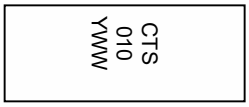


IMPORTANT: Please assure >=20mils (0.5mm) thickness of dielectric beneath the I/O Pads and the surrounding clearance zone down to the required ground plane.

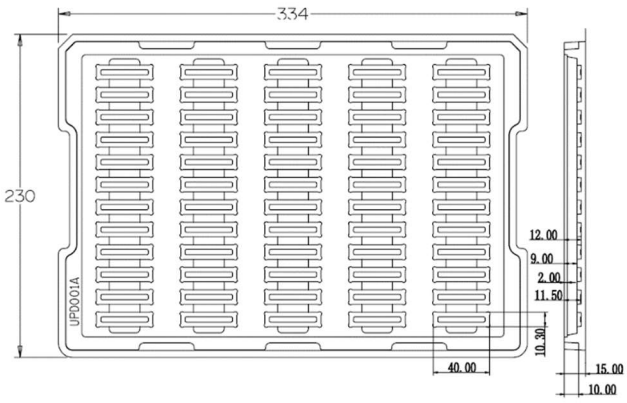
Please assure sufficient ground vias between the top metal ground plane and the primary ground plane.

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

Packaging and Marking

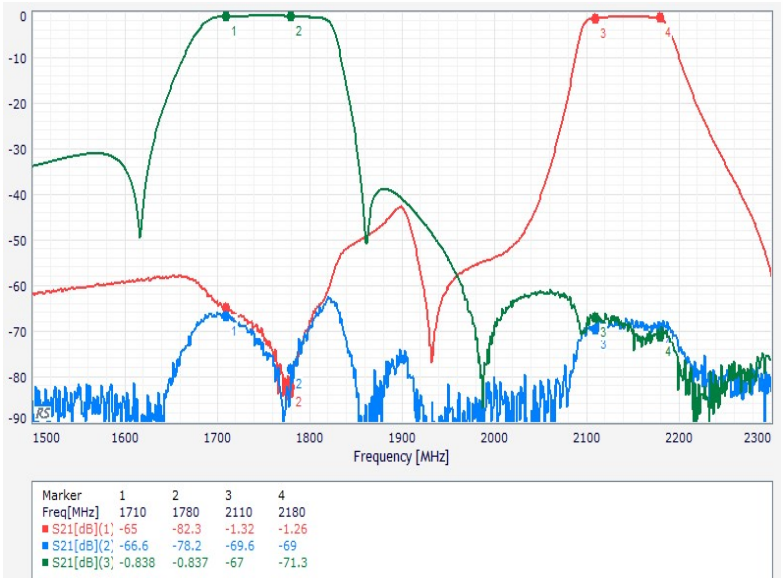


Product is shipped in thermo-formed plastic trays



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

Electrical Response



Electrical Specifications – Supplemental Spectrum Specifications

Parameter	Frequency (MHz)	Typical at 25°C	Spec. at 25°C	Spec. over -40°C to +85°C
Antenna to UL Response				
Attenuation:	1-960	57 dB	40 dB min	40 dB min
	961-1462	33 dB	20 dB min	20 dB min
	1463-1525	29 dB	15 dB min	15 dB min
	1525-1559	26 dB	10 dB min	10 dB min
	1845-1849	33 dB	15 dB min	15 dB min
	1850-1929	39 dB	25 dB min	25 dB min
	1930-2109	53 dB	38 dB min	38 dB min
	2181-2710	63 dB	40 dB min	40 dB min
	2711-3399	33 dB	25 dB min	25 dB min
	3400-3600	25 dB	15 dB min	15 dB min
	3601-3800	15 dB	10 dB min	10 dB min
DL to Antenna Response				
Attenuation:	1-1300	66 dB	35 dB min	35 dB min
	1301-1709	56 dB	30 dB min	30 dB min
	1781-2025	42 dB	35 dB min	35 dB min
	2200-2300	9 dB	8 dB min	8 dB min
	2301-2400	47 dB	42 dB min	42 dB min
	2400-2496	47 dB	45 dB min	45 dB min
	2496-2690	48 dB	42 dB min	42 dB min
	2690-3400	48 dB	31 dB min	31 dB min
	3400-3800	32 dB	22 dB min	22 dB min
	3800-4000	16 dB	10 dB min	10 dB min

Wideband Response