

# UED030A - Preliminary

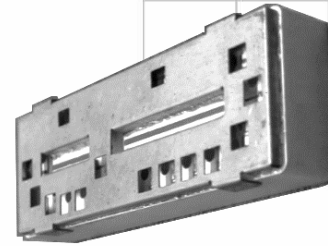
## Band 30 UED Series Duplexer

### Features

- Low Loss with High Rejection
- Superior power handling and reliability
- Universal footprint across all UED Series frequency bands
- Surface-mount using embedded strip-line RF signal traces

### Applications

- Wireless Infrastructure applications
- High-performance carrier-grade small-cells or DAS <=2W at the antenna port requiring multi-channel or carrier aggregation.



**ESTIMATE** Part Dimensions: 59 × 20 × 9 mm • <50 g  
Materials: Ag plated ceramic block with tin plated brass shield

### Description

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	-	-	-	8.0 Watt max
Peak Input Power	-	-	-	80 Watt max

#### Antenna to UL Response

Passband Insertion Loss (10 MHz avg)	2305 - 2315	2.4 dB	3.3 dB max	3.3 dB max
Passband Return Loss	2305 - 2315	15 dB	13 dB min	13 dB min
Attenuation:	2350 - 2360		>55 dB min	>55 dB min

#### DL to Antenna Response

Passband Insertion Loss (10 MHz avg)	2350 - 2360	3.3 dB	3.6 dB max	3.6 dB max
Passband Return Loss	2350 - 2360	15 dB	13 dB min	13 dB min
Attenuation:	2305 - 2315		70 dB min	70 dB min

#### DL to UL Response

Attenuation for UL band	2305 - 2315		70 dB min	70 dB min
Attenuation for DL band	2350 - 2360		>55 dB min	>55 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.

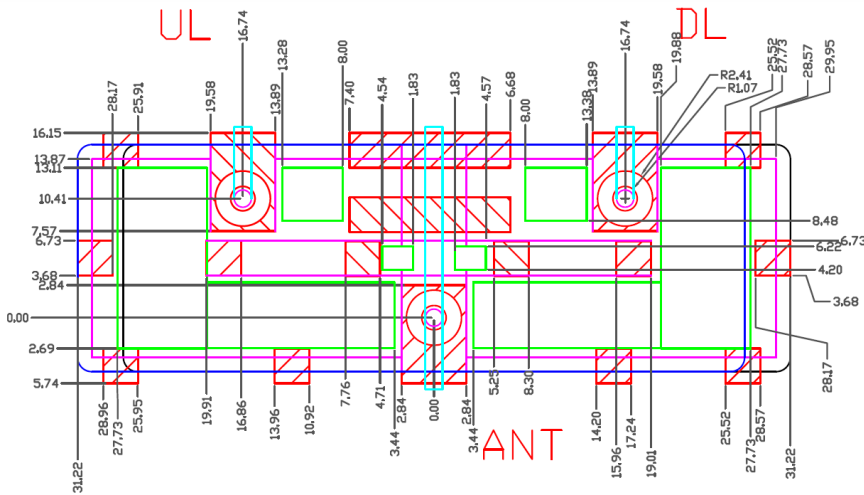
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB



Mechanical Drawing

Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	59.00	Max
B	20.00	Max
C		
D		
E		
F		
G		
H		
I		
J		
K		

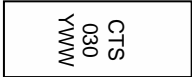
PCB Layout (Top-Down View)



**IMPORTANT:** Please assure  $\geq 20$  mils (0.5mm) thickness of dielectric beneath the top-metal.  
Please assure sufficient ground vias between the top metal ground planes 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.

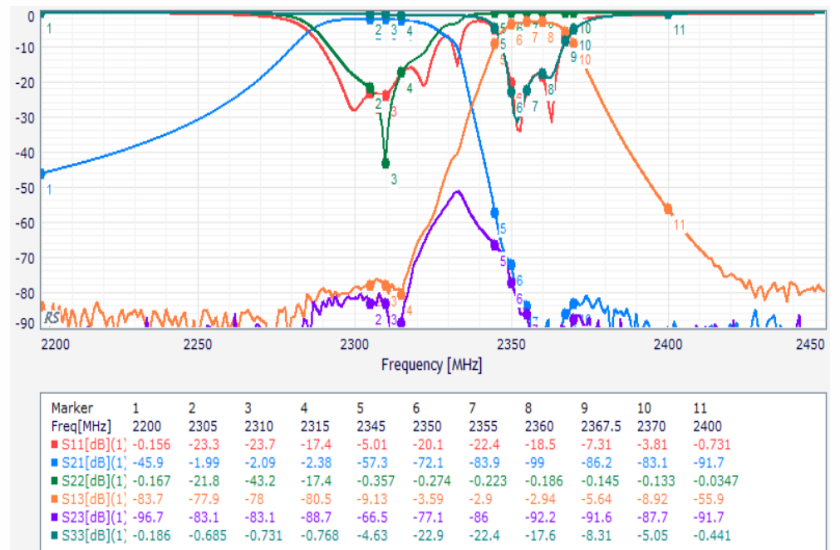
**NOTE:** While each unit is only 59mm length, the Universal footprint allocates 62.5mm for support of freq bands with low-band as DL. Signal vias directly under the I/Os should be blind-vias to embedded strip-lines.

Packaging and Marking



Product is shipped in Pre-formed foam trays

Electrical Response



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



### Electrical Specifications – Supplemental Spectrum Specifications

Parameter	Frequency (MHz)	Typical at 25°C	Spec. at 25°C	Spec. over -40°C to +85°C
<b>Antenna to UL Response</b>				
Attenuation:	1 - 1709		50 dB min	50 dB min
	1710 - 2200	44 dB	40 dB min	40 dB min
	2496 - 2690		50 dB min	50 dB min
	3300 - 3800		30 dB min	30 dB min
<b>DL to Antenna Response</b>				
Attenuation:	1 - 2304		50 dB min	50 dB min
	2345	9 dB	8.5 dB min	7 dB min
	2367.5	5.5 dB	5 dB min	4 dB min
	2370	9 dB	8.5 dB min	7 dB min
	2496 - 2690	55 dB	50 dB min	50 dB min
	3300 - 3800		30 dB min	30 dB min