

UED003A - Preliminary

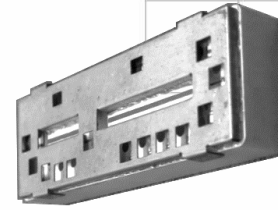
Band 3 UED Series Duplexer

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.



Part Dimensions: 59 × 21 × 10.6 mm • 37.1 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 (5 MHz avg)	1710 - 1785	2.8 dB	3.0 dB max	3.2 dB max
Passband Return Loss	1710 - 1785	15 dB	13 dB min	13 dB min
Attenuation:	1805 - 1880	71 dB	67 dB min	67 dB min

DL to Antenna Response

Passband Insertion Loss (5 MHz avg)	1810 - 1880	2.5 dB	2.8 dB max	3.0 dB max
(5 MHz avg)	1805 - 1810	2.8 dB	3.0 dB max	3.2 dB max
Passband Return Loss	1805 - 1880	15 dB	13 dB min	13 dB min
Attenuation:	1710 - 1783	73 dB	70 dB min	70 dB min
	1784 - 1785	70 dB	69 dB min	67 dB min

DL to UL Response

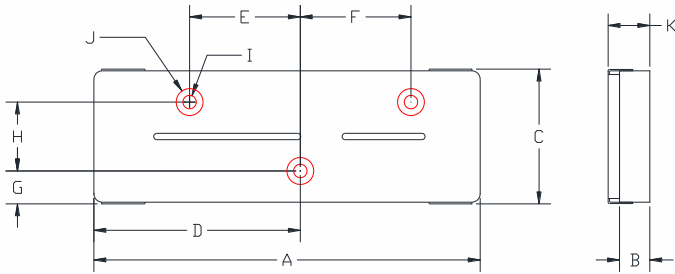
Attenuation for UL band	1710 - 1783	74 dB	72 dB min	72 dB min
	1784 - 1785	70 dB	69 dB min	67 dB min
Attenuation for DL band	1805 - 1880	70 dB	68 dB min	68 dB min

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

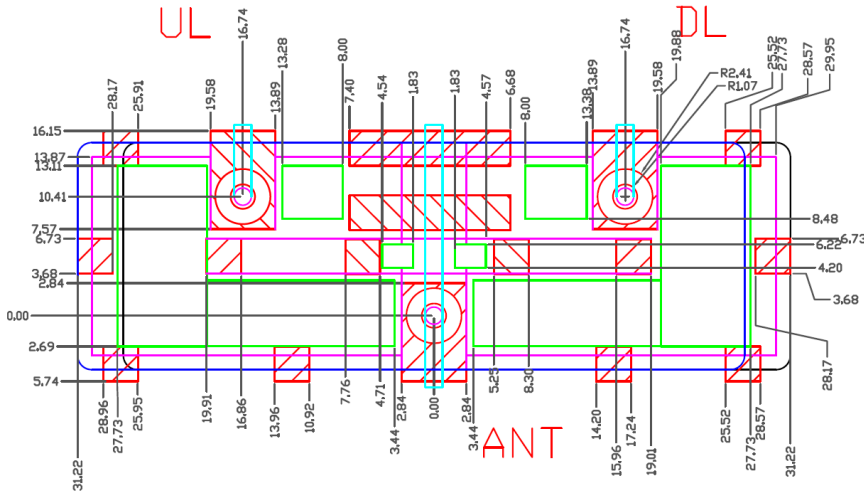
TBC = To be confirmed

Mechanical Drawing (Bottom View)



Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	59.00	Max
B	8.80	Max
C	21.00	Max
D	31.22	0.20
E	16.74	0.13
F	16.74	0.13
G	4.97	0.20
H	10.41	0.13
I (radius)	1.02	0.13
J (radius)	2.03	0.13
K	10.60	Max

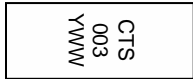
PCB Layout (Top-Down View)



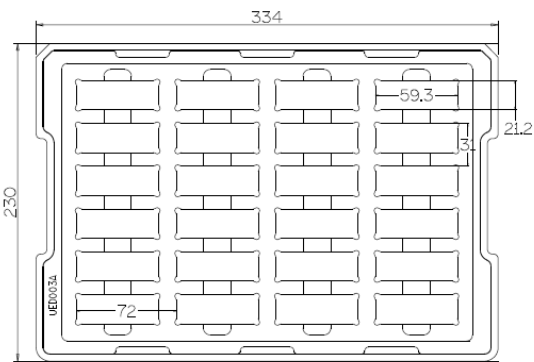
Align part to Black outline on the PCB Layout
 IMPORTANT: Please assure ≥ 20 mils (0.5mm) thickness of dielectric beneath the top-metal.
 Please assure sufficient ground vias between the top metal ground planes and the primary ground plane.
 Recommended solder: 6 mils of SAC305 with reflow including 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

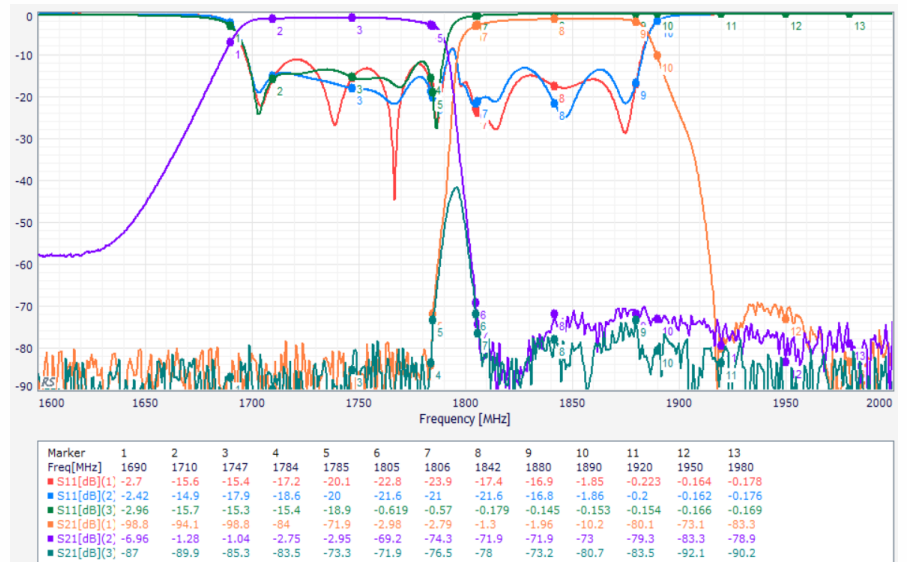


Product is shipped in thermo formed plastic trays



The trays have 24 slots each with one filter per slot. Boxes are packed with 5 Trays per box for a total of 120 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			60 dB min
	961 - 1511			50 dB min
	1690			5 dB min
	1881 - 2690			50 dB min
DL to Antenna Response				
Attenuation:	1 - 1709			60 dB min
	1795			5 dB min
	1890			5 dB min
	1920 - 1980			55 dB min
	1981 - 2690			50 dB min