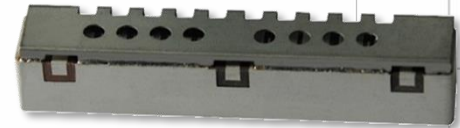


USD020R - PRELIMINARY

Band 20 USD Series Duplexer

Features

- Mirrored design. UL and DL reversed of USD020B
- Low Loss with High Rejection
- Superior power handling and reliability
- Universal footprint across all FDD frequency bands



Applications

- Wireless Infrastructure applications
- High-performance carrier-grade small-cells using linearized PA for 1.0-2.0W at the antenna port.
- Wide-band pico-cells or small-cells requiring multi-channel or carrier aggregation.

Part Dimensions: ESTIMATE 63 × 18.7 × 12.2 mm • 35.4 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.

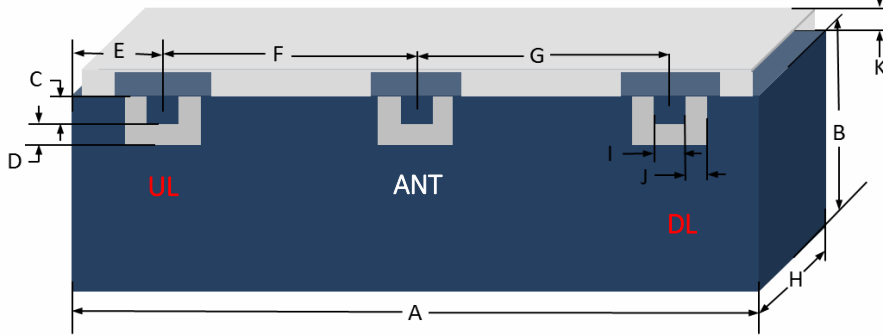
Electrical Specifications

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	-	-	-	6.0 Watt max
Peak Input Power	-	-	-	60 Watt max
Antenna to UL Response		Preliminary specifications, subject to change		
Passband Insertion Loss (5 MHz avg)	832 - 862	2.3 dB	2.6 dB max	2.6 dB max
Passband Return Loss	832 - 862	15 dB	12 dB min	12 dB min
Attenuation:	791 - 821	66 dB	64 dB min	64 dB min
DL to Antenna Response				
Passband Insertion Loss (5 MHz avg)	791 - 821	2.3 dB	2.6 dB max	2.6 dB max
Passband Return Loss	791 - 821	15 dB	12 dB min	12 dB min
Attenuation:	832 - 862	73 dB	70 dB min	70 dB min
DL to UL Response				
Attenuation for UL band	832 - 862	73 dB	71 dB min	71 dB min
Attenuation for DL band	791 - 821	66 dB	64 dB min	64 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

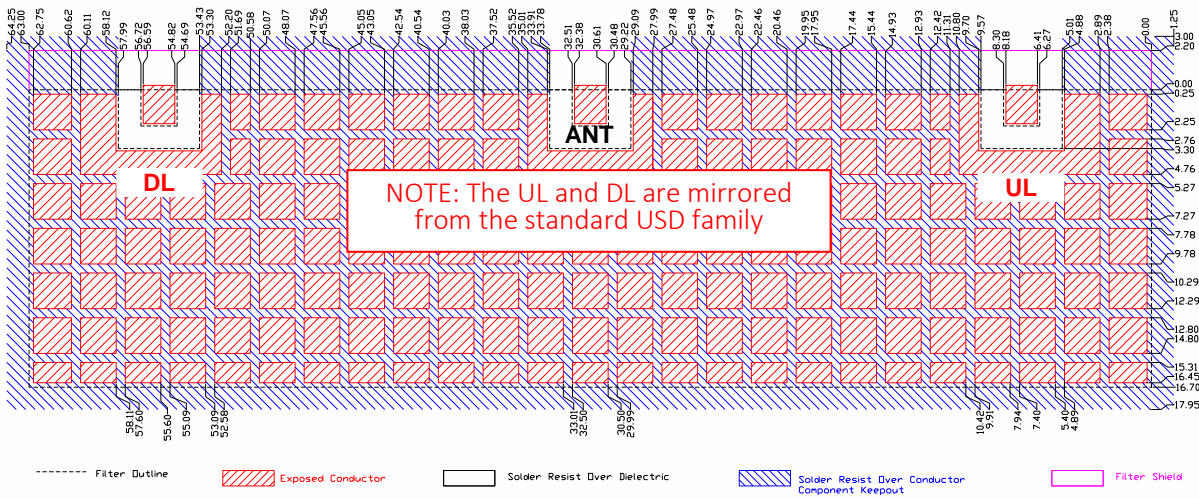
Mechanical Drawing



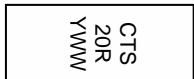
Preliminary Dimensions subject to change

Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	63.00	Max
B	16.70	Max
C	2.03	0.13
D	1.27	0.13
E	6.49	0.13
F	24.21	0.13
G	24.21	0.13
H	12.20	Max
I	2.03	0.13
J	1.27	0.13
K	2.00	0.13

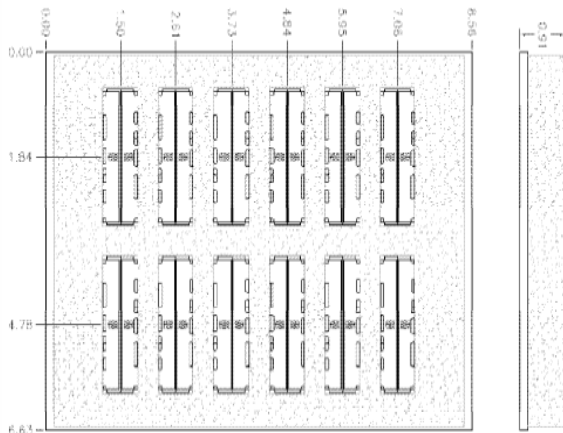
PCB Layout



Packaging and Marking

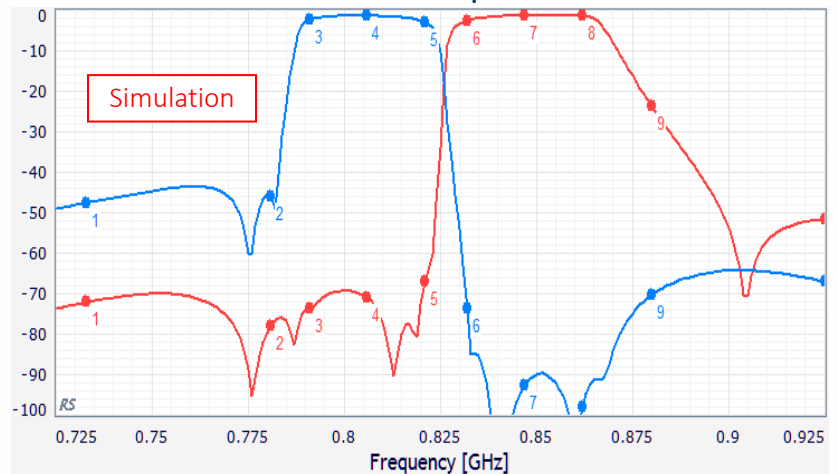


Product is shipped in Pre-formed foam trays



The trays have 12 slots each with 2 filters per slot. Boxes are packed with 5 Trays per box for a total of 120 filters per box.

Electrical Response



Marker	1	2	3	4	5	6	7	8	9
Freq[GHz]	0.733	0.781	0.791	0.806	0.821	0.832	0.847	0.862	0.88
S21[dB](1)	-72	-77.7	-73.6	-70.8	-66.8	-2.39	-1.1	-1.27	-23.4
S13[dB](1)	-47.5	-45.7	-2.1	-1.23	-2.76	-73.5	-92.5	-98	-70.2



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 - 791			50 dB min
	880 - 925			16 dB min
	925 - 960			34 dB min
	960 - 1400		Preliminary specifications, subject to change	40 dB min
DL to Antenna Response				
Attenuation:	1 - 733			40 dB min
	733 - 781			20 dB min
	862 - 960			50 dB min
	960 - 1400			40 dB min