

# USD0585A - PRELIMINARY

## 470-574/596-702MHz USD Series Duplexer

### Features

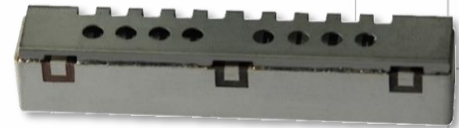
- Low Loss with High Rejection
- Superior power handling and reliability
- Universal footprint across all FDD frequency bands

### Applications

- Specialized TVWS applications

### 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.



ESTIMATE  
Part Dimensions: 63.0? × 18.8? × 10.6? mm • 55? g  
Materials: Ag plated ceramic block with tin plated brass shield

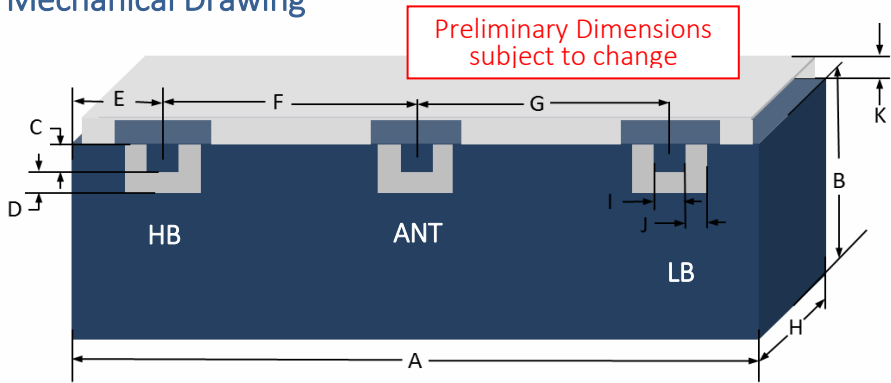
### Electrical Specifications

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	-	Preliminary specifications, subject to change		30 Watt max
Antenna to HB Response				
Passband Insertion Loss (5 MHz avg)	596 - 702		Spec: 1.8 dB max Goal: 1.5 dB max	Spec: 2.0 dB max Goal: 1.6 dB max
Passband Insertion Loss (5 MHz avg)	602 - 698		1.5 dB max	1.6 dB max
Passband Ripple (over 10 MHz)	596 - 702		Goal: 0.8 dB max	Goal: 1.1 dB max
Passband Return Loss	596 - 702		10 dB min	10 dB min
Attenuation:	470 - 574			Spec: 42 dB min Goal: 50 dB min
LB to Antenna Response				
Passband Insertion Loss (5 MHz avg)	566 - 574		Spec: 1.8 dB max Goal: 1.5 dB max	Spec: 2.0 dB max Goal: 1.6 dB max
Passband Insertion Loss (5 MHz avg)	470 - 566		1.5 dB max	1.6 dB max
Passband Ripple (over 10 MHz)	470 - 574		Goal: 0.8 dB max	Goal: 1.1 dB max
Passband Return Loss	470 - 574		10 dB min	10 dB min
Attenuation:	596 - 702			Spec: 42 dB min Goal: 45 dB min
HB to LB Response				
Attenuation for UL band	596 - 702			Spec: 42 dB min Goal: 45 dB min
Attenuation for DL band	470 - 574			Spec: 42 dB min Goal: 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.

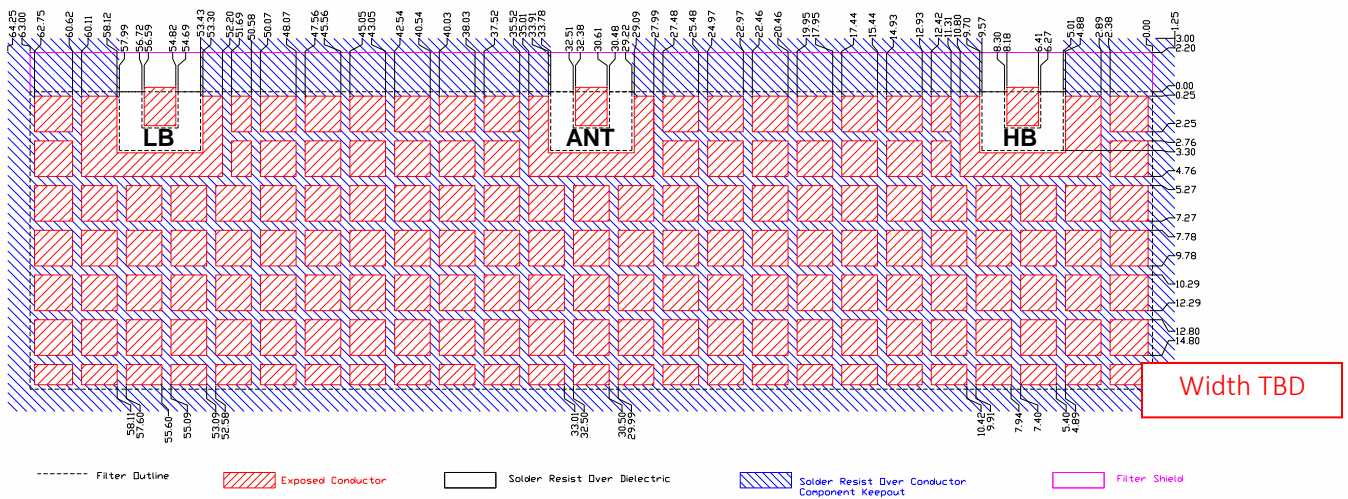
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

### Mechanical Drawing

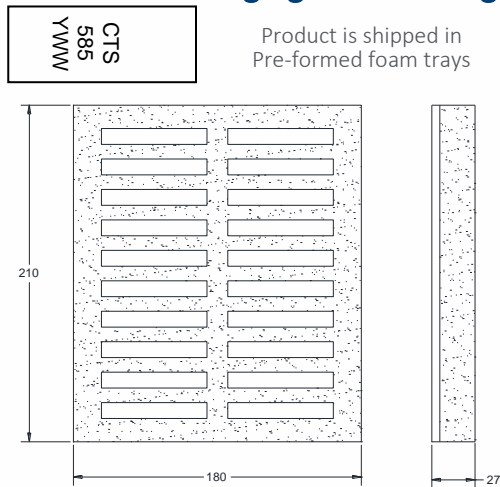


Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	<=63.00??	Max
B	16-19??	Max
C	2.03	0.13
D	1.27	0.13
E	TBD	0.13
F	24.21	0.13
G	24.21	0.13
H	10.47	Max
I	2.03	0.13
J	1.27	0.13
K	2.0-2.6??	Max

### PCB Layout

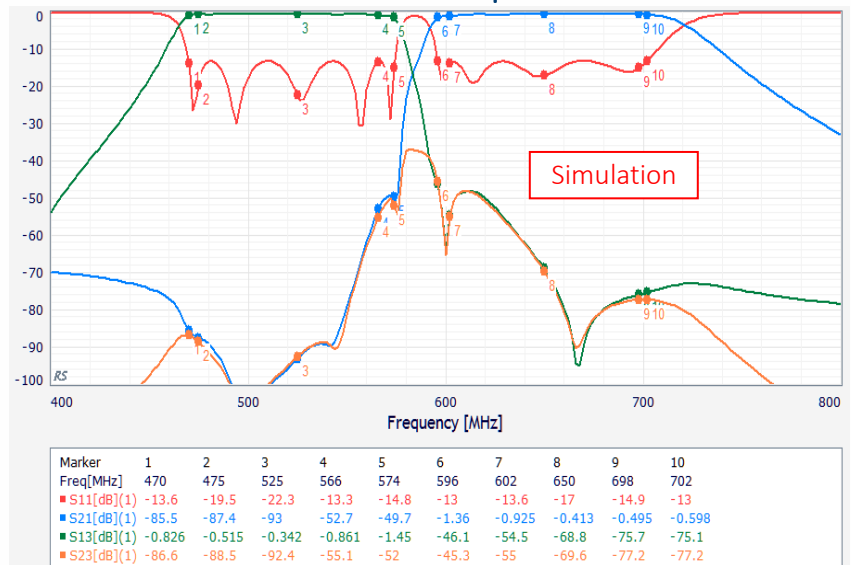


### Packaging and Marking



The trays have 20 slots each with 1 filter per slot. Boxes are packed with 12 Trays per box for a total of 240 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
<b>Antenna to HB Response</b>				
Attenuation:	1250 - 1400		Spec: none Goal: 20dB	Spec: none Goal: 20dB
<div style="border: 1px solid red; padding: 5px; display: inline-block;">           Preliminary specifications, subject to change         </div>				
<b>LB to Antenna Response</b>				
Attenuation:	698 - 960		Goal: 65 dB	Goal: 65 dB
	961 - 1200		Spec: none Goal: 20 dB	Spec: none Goal: 20 dB