

UMD005A - PRELIMINARY Band 5 UMD Series Duplexer

Features

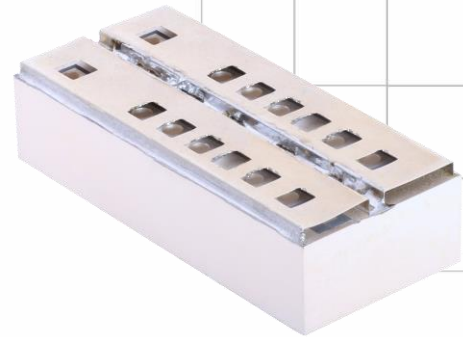
- Low Loss with High Rejection
- Superior power handling and reliability
- Universal footprint across all UMD Series frequency bands
- Available for either PCB mounting or with various connectors including SMA, SMP-Max, and other options.

Applications

- Wireless Infrastructure applications
- High-performance carrier-grade active antennas and small-cells for 4-10W at the antenna port.
- Wide-band DAS, Repeaters, or small-cells requiring multi-channel or carrier aggregation

Description

Ceramic duplexer supports a universal footprint across all FDD frequency bands < 1 GHz 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: 64 × 29 × 16 mm • <105 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	-	-	-	20.0 Watt max
Peak Input Power	-	-	-	200 Watt max
Passive Intermodulation (2x 5W)	-	-	-	-106 dBm

Antenna to UL Response

Parameter	Frequency (MHz)	Typical at 25°C	Spec. at 25°C	Spec. over -40°C to +85°C
Passband Insertion Loss (5 MHz avg)	824 - 849	1.8 dB <i>(prefer 1.5dB)</i>	2.0 dB max <i>(prefer 1.7dB)</i>	2.2 dB max <i>(prefer 1.8dB)</i>
Passband Return Loss	824 - 849	15 dB	14 dB min	14 dB min
Attenuation:	869 - 894	74 dB	72 dB min	72 dB min

DL to Antenna Response

Parameter	Frequency (MHz)	Typical at 25°C	Spec. at 25°C	Spec. over -40°C to +85°C
Passband Insertion Loss (5 MHz avg)	869 - 894	1.5 dB	1.7 dB max	1.9 dB max <i>(prefer 1.8dB)</i>
Passband Return Loss	869 - 894	15 dB	14 dB min	14 dB min
Attenuation:	824 - 849	80 dB	78 dB min	78 dB min

DL to UL Response

Parameter	Frequency (MHz)	Typical at 25°C	Spec. at 25°C	Spec. over -40°C to +85°C
Attenuation for UL band	824 - 849	82 dB	80 dB min	80 dB min
Attenuation for DL band	869 - 894	76 dB	74 dB min	74 dB min

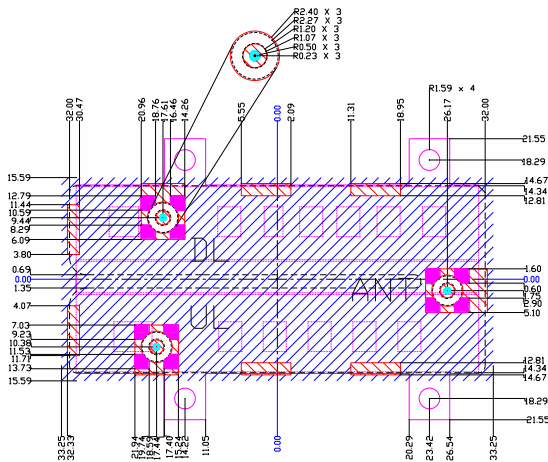
Note: CTS tests each unit to the critical specifications above. Subsequent audits may deviate due to repeatability among different test systems which shall not exceed these allowances.

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

Mechanical Drawing

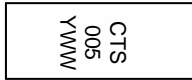
Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	64.00	Max
B	29.00	Max
C		
D		
E		
F		
G		
H		
I		
J		
K		

PCB Layout (Top-Down View)



- Filter Outline
- Exposed Conductor for Surface Mount
- Exposed Conductor for SMP-MAX Connector
- Pin for Pinmount
- Solder Resist Over Conductor (Keep Out Area)
- Solder Resist over Dielectric
- Via for Pin Mount

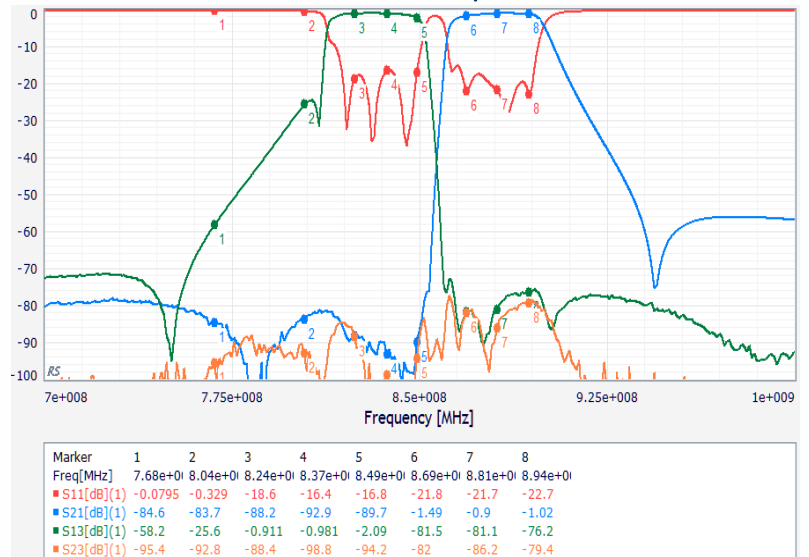
Packaging and Marking



Product is shipped in Pre-formed foam trays

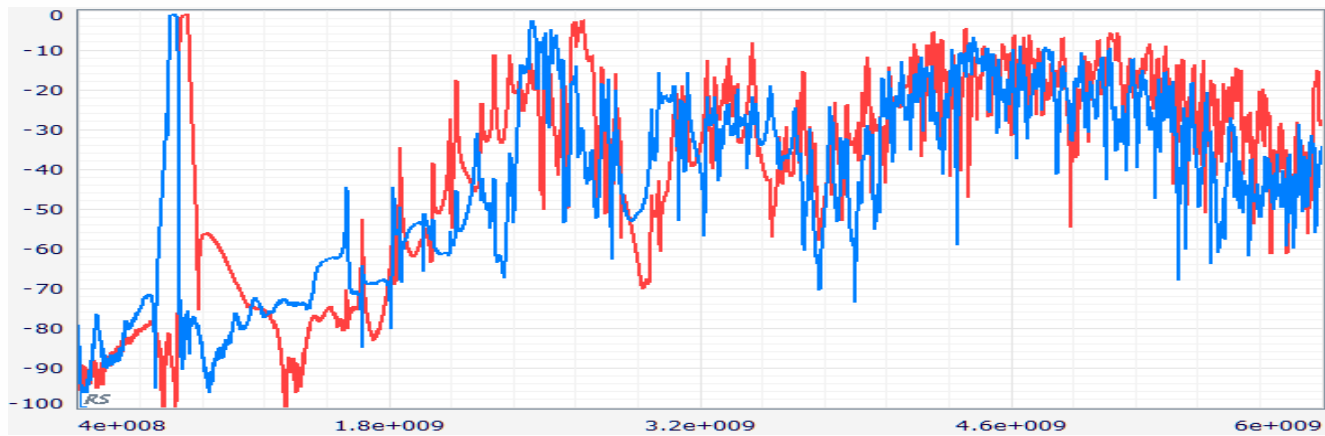
The trays have xx slots each with one filter per slot. Boxes are packed with 12 Trays per box for a total of xx filters per box.

Electrical 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 - 768			50 dB min
	769 - 804			18 dB min
	894 - 1500			60 dB min
DL to Antenna Response				
Attenuation:	1 - 823			60 dB min



Ordering Options

Part Number	Code	Connector Option Description
UMD005A	[blank]	No pins or connectors
	-C3	3 SMP-Com Male with limited detent
	-CF2	SMP-Com Male with limited detent antenna port + 2 SMP female cables
	-M3	3 SMP-Max Slide-type Male
	-NS2	N-type antenna port + 2 SMA Male (CMD only)
	-P3	3 thru-hole pins for soldering to PCB (UMD only)
	-S3	3 SMA Female