Product Brief

UMD003A - Preliminary

Band 3 UMD Series Duplexer

Available as direct-solder to PCB or with various connector options.

ESTIMATE Part Dimensions: 64 × 29 × 13 mm • <90 g (excl. connectors)
Materials: Ag plated ceramic block with tin plated brass shield

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 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	-	-	-	20.0 Watt max
Peak Input Power	-	-	-	200 Watt max
Passive Intermodulation (2x 5W)	-	-	-	-106 dBm TBC
Antenna to UL Response				
Passband Insertion Loss (5 MHz avg)	1710 - 1785	2.4 dB	2.5 dB max	2.6 dB max
Passband Return Loss	1710 - 1785	15 dB	14 dB min	14 dB min
Attenuation: (5 MHz avg)	1805 - 1880	74 dB	70 dB min	70 dB min
(single point)	1806 - 1880	74 dB	70 dB min	70 dB min
(single point)	1805		68 dB min	66 dB min
DL to Antenna Response				
Passband Insertion Loss (5 MHz avg)	1805 - 1880	2.5 dB	2.6 dB max	2.7 dB max
Passband Return Loss	1805 - 1880	15 dB	14 dB min	14 dB min
Attenuation: (5 MHz avg)	1710 - 1785	80 dB	78 dB min	78 dB min
(single point)	1710 - 1784	80 dB	78 dB min	78 dB min
(single point)	1785		76 dB min	74 dB min
DL to UL Response				
Attenuation for UL band (5MHz avg)	1710 - 1785	82 dB	80 dB min	80 dB min
Attenuation for DL band (5MHz avg)	1805 - 1880	76 dB	72 dB min	72 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.

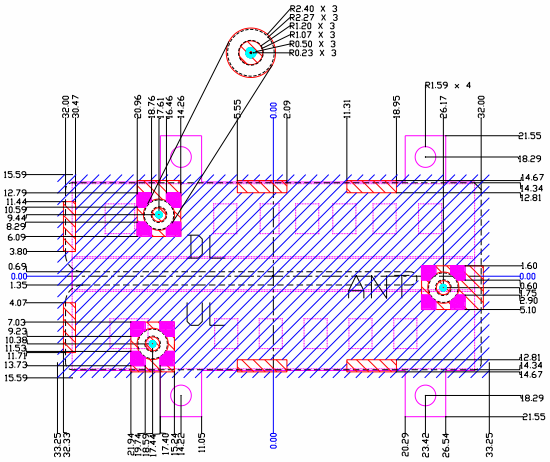
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

TBC = To be confirmed

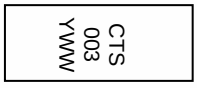
Mechanical Drawing

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)

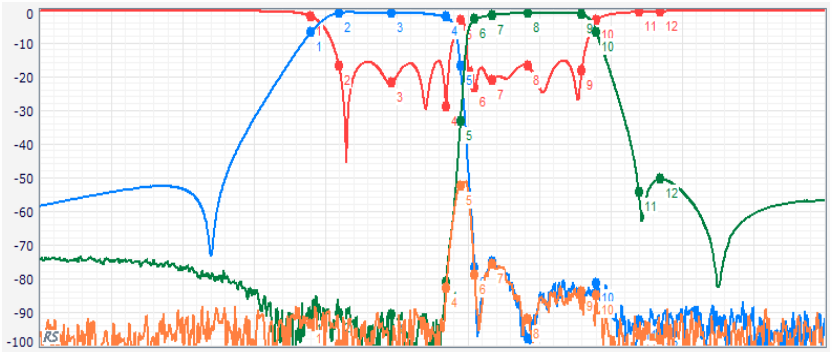


Packaging and Marking



Product is shipped in Pre-formed foam trays

Electrical Response



Marker	1	2	3	4	5	6	7	8	9	10	11	12
Freq[MHz]	1690	1710	1747	1785	1795	1805	1817	1842	1880	1890	1920	1935
S11[dB](1)	-1.86	-16.7	-21.6	-28.7	-3.06	-23.1	-20.8	-16.7	-18.1	-3.18	-0.569	-0.382
S21[dB](1)	-6.68	-0.843	-0.78	-2.1	-16.7	-76.7	-75	-97.6	-83.8	-81.1	-92.2	-95.5
S13[dB](1)	-90.5	-90.2	-90.4	-81	-33.2	-2.81	-1.47	-0.958	-1.23	-6.44	-54.1	-50.2
S23[dB](1)	-93.3	-99.5	-110	-82.7	-52.2	-78.8	-75.5	-91.9	-83.7	-85	-96.7	-98

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
Antenna to UL Response				
Attenuation:	1 - 960			60 dB min
	961 - 1511			48 dB min
	1690	6 dB		5 dB min
	1881 - 2690			60 dB min
DL to Antenna Response				
Attenuation:	1 - 1709			60 dB min
	1795			5 dB min
	1890	6 dB		5 dB min
	1920 - 2690			48 dB min

Ordering Options

Part Number	Code	Connector Option Description
UMD003A	[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
	-P3	3 thru-hole pins for soldering to PCB
	-S3	3 SMA Female