Product Brief

UMD007A - Preliminary

Band 7 UMD Series Duplexer

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

ESTIMATE Part Dimensions: 64 × 29 × 10 mm • <70 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)	2500 - 2570	2.0 dB	2.2 dB max	2.4 dB max
Passband Return Loss	2500 - 2570	14 dB	13 dB min	13 dB min
Attenuation: (5MHz avg)	2620 - 2690	71 dB	70 dB min	70 dB min
DL to Antenna Response				
Passband Insertion Loss (5 MHz avg)	2620 - 2690	2.0 dB	2.2 dB max	2.4 dB max
Passband Return Loss	2620 - 2690	15 dB	14 dB min	14 dB min
Attenuation: (5MHz avg)	2500 - 2570	78 dB	77 dB min	77 dB min
DL to UL Response				
Attenuation for UL band (5MHz avg)	2500 - 2570	79 dB	78 dB min	78 dB min
Attenuation for DL band (5MHz avg)	2620 - 2690	71 dB	70 dB min	70 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.

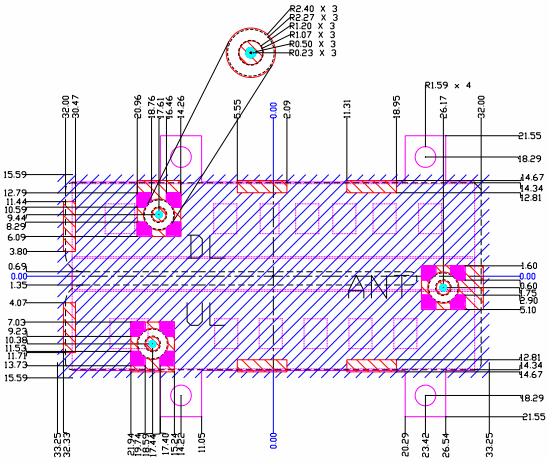
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

TBC = To be confirmed

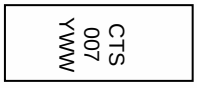
Mechanical Drawing

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)

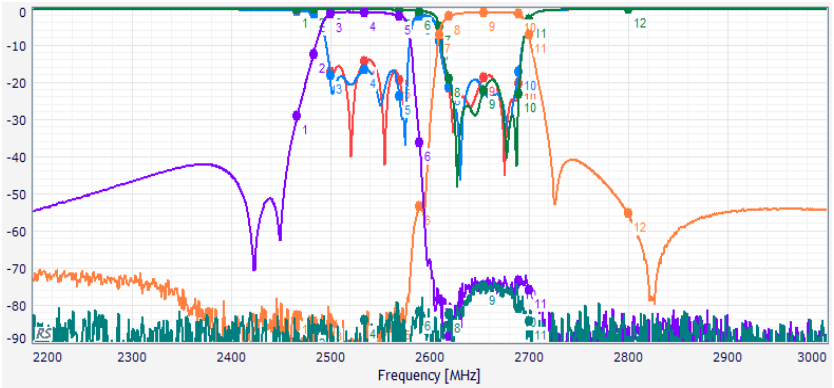


Packaging and Marking



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]	2467	2483	2500	2535	2570	2590	2610	2620	2655	2690	2700	2800
S11[dB](1)	-0.627	-1.28	-16.9	-14.1	-19.2	-1.99	-8.44	-21.4	-18.7	-20	-3.09	-0.189
S11[dB](2)	-0.623	-1.3	-18.1	-16.4	-23.7	-1.97	-8.89	-21.2	-22.2	-16.9	-3.09	-0.186
S11[dB](3)	-0.136	-0.134	-0.136	-0.199	-0.361	-0.652	-4.96	-18.9	-22	-23.1	-3.06	-0.176
S21[dB](1)	-82.6	-84.2	-84.5	-102	-84.2	-53.3	-7.12	-1.97	-1.03	-1.53	-6.98	-55.2
S21[dB](2)	-28.9	-12.5	-1.4	-1.03	-1.94	-36.1	-78.1	-88.3	-74.6	-73.2	-75.8	-91.3
S21[dB](3)	-90.6	-86.4	-102	-83.8	-93.3	-81.9	-96.9	-82.4	-74.9	-80.7	-84.1	-89.6

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 - 2010			60 dB min
	2011 - 2100			50 dB min
	2101 - 2400			40 dB min
	2401 - 2467			25 dB min
	2468 - 2483			10 dB min
	2590			18 dB min
	2690 - 3800			50 dB min
DL to Antenna Response				
Attenuation:	1 - 2500			60 dB min
	2610			5 dB min
	2700			5 dB min
	2800 - 3800			50 dB min

Ordering Options

Part Number	Code	Connector Option Description
UMD007A	[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