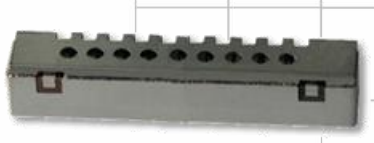
Product Brief

UMB0516A - PRELIMINARY

486-546 MHz Bandpass Filter



Part Dimensions: 56.3 × 20.5 × 14.7 mm • 70.3 g
Materials: Ag plated ceramic block with tin plated brass shield

Features

- Low loss with high rejection
- Support I/O spacing to allow expanded-length universal footprint with UMB family TDD bands

Applications

- Wireless Infrastructure applications
- High-performance carrier-grade TDD Pico-cells
- Wide-band DAS, Repeaters, massive MIMO systems, or small-cells basestations

Description

Surface mount ceramic bandpass filter for TDD frequency band designed to share an extended PCB footprint with the MMB family. Superior rejection, insertion loss, reliability, as well as both peak and average power handling compared to other bandpass filter 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 Watt max
Peak Input Power	-	-	-	160 Watt max
Input-Output Response				
Passband Insertion Loss (5MHz Average)	486 - 546	1.4 dB	1.8 dB max	2.0 dB max
Passband Ripple	486 - 546	0.7 dB	1.0 dB max	1.1 dB max
Passband Return Loss	486 - 546	15 dB	14 dB min	14 dB min
Attenuation:	1 - 466	45 dB	40 dB min	40 dB min
	481	9 dB	8 dB min	8 dB min
	551	6 dB	5 dB min	5 dB min
	566 - 1000	42 dB	40 dB min	40 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

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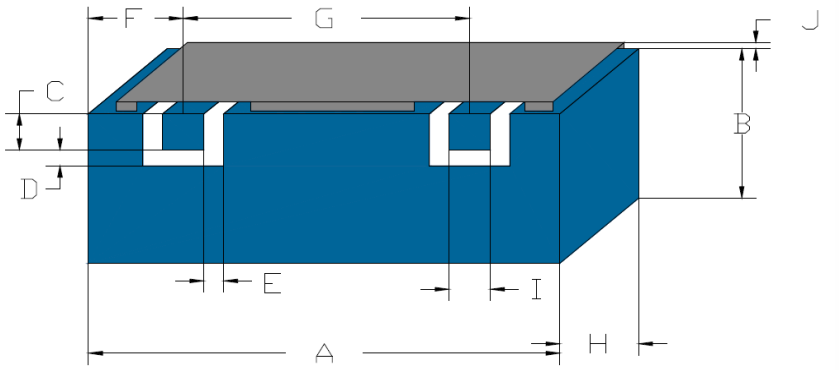
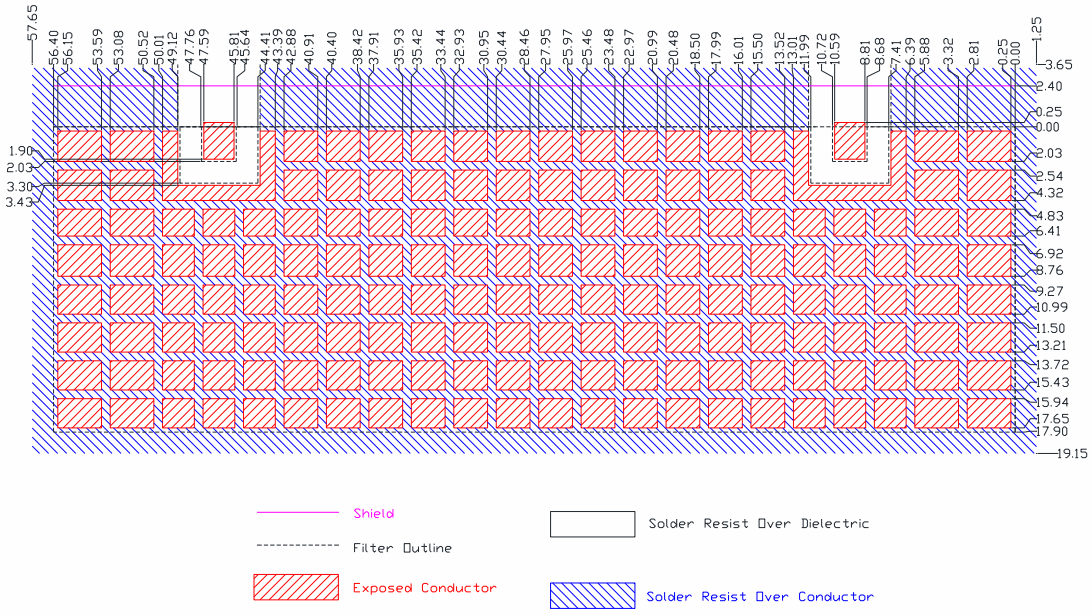
Mechanical Drawing

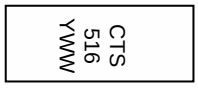


Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	55.9	0.40
B	17.4	0.50
C	2.03	0.13
D	1.27	0.13
E	1.27	0.13
F	9.45	0.25
G	37.0	0.13
H	14.5	0.20
I	2.03	0.13
J	2.40	0.2

PCB Layout

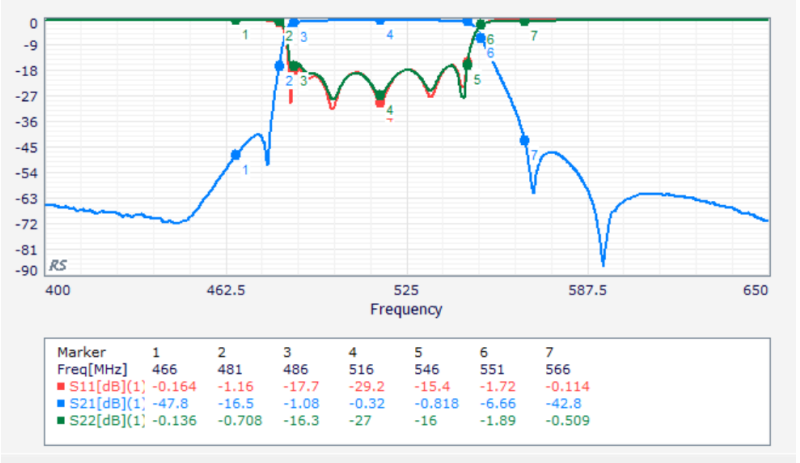


Packaging and Marking



Packaging TBD

Electrical Response



Marker	1	2	3	4	5	6	7
Freq[MHz]	466	481	486	516	546	551	566
S11[dB](1)	-0.164	-1.16	-17.7	-29.2	-15.4	-1.72	-0.114
S21[dB](1)	-47.8	-16.5	-1.08	-0.32	-0.818	-6.66	-42.8
S22[dB](1)	-0.136	-0.708	-16.3	-27	-16	-1.89	-0.509

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