

MMB042B - PRELIMINARY

Band 42 MMB Series TDD Bandpass Filter

Features

- Low Loss, low ripple, with High Rejection
- Universal footprint across family for all TDD bands

Applications

- Wireless Infrastructure applications
- Massive MIMO and Active Antenna Systems
- High-performance carrier-grade TDD systems

Description

Surface mount ceramic bandpass filter supports a universal footprint across all TDD frequency bands enabling the use of a common system PCB. Superior rejection, insertion loss, reliability, as well as both peak and average power handling compared to other bandpass filter technologies.



Part Dimensions: **ESTIMATE** 40.0 x <8.0 x 9.3 mm • <10 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 +105°C
Nominal Impedance	-	50 ohms	-	-
Average Input Power	-	-	-	10.0 Watt max
Peak Input Power	-	-	-	100 Watt max

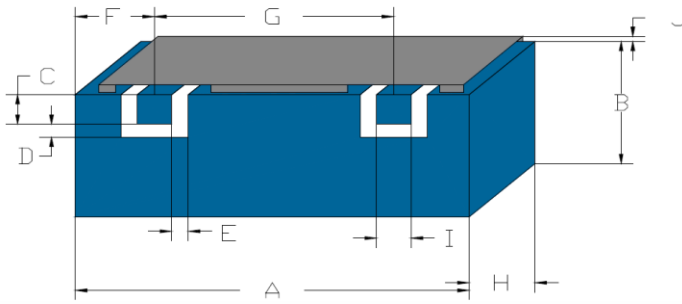
Input-Output Response

Passband Insertion Loss (100 MHz avg)	3400-3600	1.2 dB max	1.2 dB max
Passband Insertion Loss (20 MHz avg)	3400-3600	1.6 dB max	1.6 dB max
Passband Insertion Loss (10 MHz avg)	3400-3600	1.7 dB max	1.7 dB max
Passband Insertion Loss (5 MHz avg)	3400-3600	1.8 dB max	1.8 dB max
Passband Insertion Loss (single point)	3400-3600	2.0 dB max	2.0 dB max
Passband Ripple	3400-3600	1.5 dB max	1.6 dB max
Passband Return Loss	3400-3600	16 dB min	16 dB min
Delay Variation vs Temp	3400-3600		<20 ns max
Attenuation:	1-2690		62 dB min
	2691-2900		45 dB min
	2901-3300		30 dB min
	3301-3320		25 dB min
	3321-3360		22 dB min
	3640-3679		20 dB min
	3680-3699		25 dB min
	3700-3729		42 dB min
	3730-4399		45 dB min
	4400-5000		60 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.

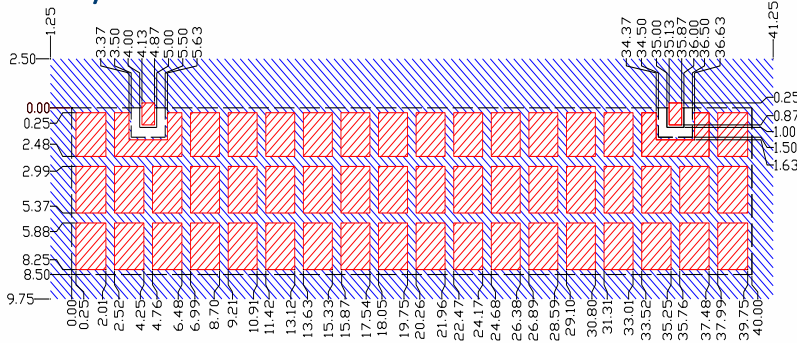
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

Mechanical Drawing



Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	40.0	max
B	4.8?	max
C	1.0	0.13
D	0.5	0.13
E	0.5	0.13
F	4.5	0.25
G	31.0	0.13
H	9.3	max
I	1.0	0.13
J	1.4	0.2

PCB Layout

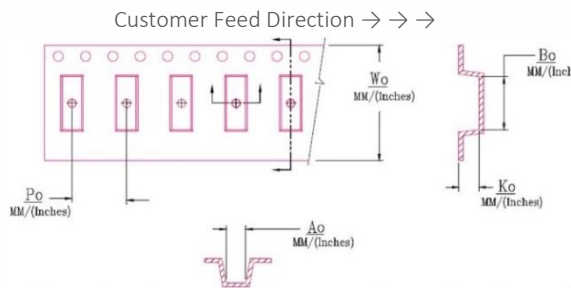


This same 40mm PCB footprint can be used for a custom 35mm filter as well.

---	Black		Exposed conductor
	Solder resist over conductor		Solder resist over Dielectric

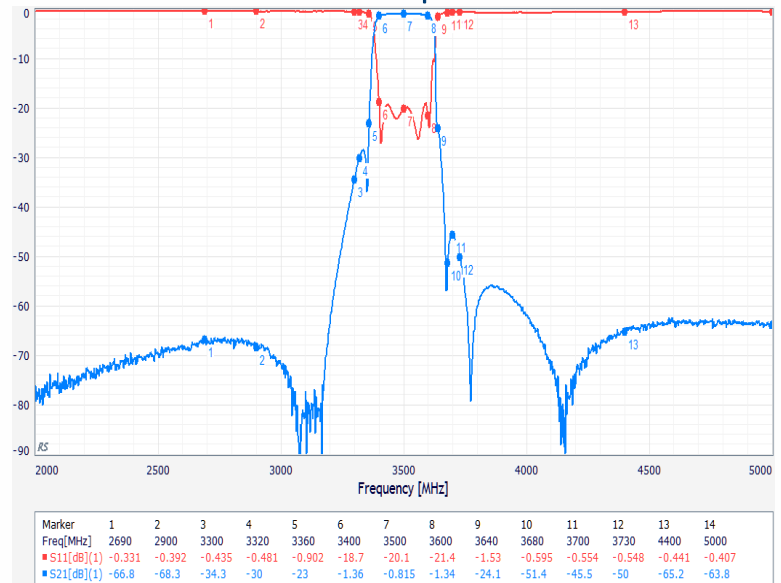
Packaging and Marking

Dimension	Units	Spec.	Product Marking
Reel Diameter	mm	330	CTS
Reel Weight	kg		42B
Reel Quantity	ea.	250	YWW



W ₀	A ₀	B ₀	K ₀	P ₀
2.205 in 56.0 mm	0.256 in 6.5 mm	1.587 in 40.3 mm	0.378 in 9.6 mm	0.630 in 16.0 mm

Electrical Response



Reliability, Test and Assembly

Operating temperature range: -40°C to +105°C

Storage temperature range: -55°C to +125°C (Test conditions >1000hrs at both limits)

Environmental Tests: 85°C/85%RH for 240 hrs. Thermal Shock: -55°C to +125°C, 100 cycles.

Vibration: 3mm amplitude in X/Y/Z at 25°C, 1g acceleration, sweep 1oct/min over 5-500Hz for 2 cycles.

Lead-free Solderability: 245°C+/-5°C for 5 sec. at least 95% coverage. Surface adhesion: >25N.