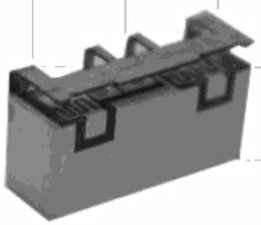
UPB470A - PRELIMINARY

4600-4800MHz UPB Series TDD Bandpass Filter

Features

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



Part Dimensions: 10.2 × 4.8 × 4.0 mm • 0.6 g
Materials: Ag plated ceramic block with tin plated brass shield

Applications

- Wireless Infrastructure applications
- High-performance carrier-grade single-band TDD Pico-cell basestations for up to 1.0W at the antenna port.

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 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	-	-	-	2.0 Watt max
Peak Input Power	-	-	-	20 Watt max
Input-Output Response				
Passband Insertion Loss (200 MHz avg)	4600-4800	1.0 dB	1.2 dB max	1.3 dB max
Passband Ripple	4600-4800	0.3 dB	0.5 dB max	0.5 dB max
Passband Return Loss	4600-4800	14 dB	12 dB min	12 dB min
Attenuation:	1-4200	40 dB	35 dB min	35 dB min
	4201-4350	32 dB	30 dB min	30 dB min
	5050-5149	32 dB	30 dB min	30 dB min
	5150-7125	40 dB	35 dB min	35 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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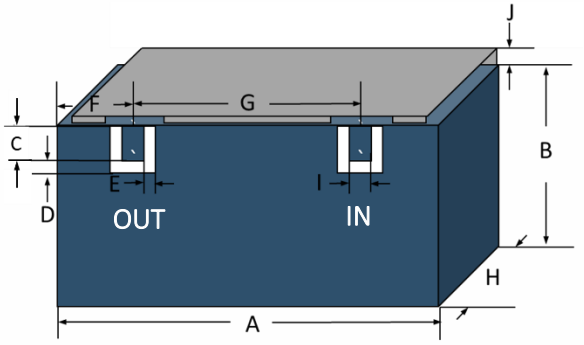
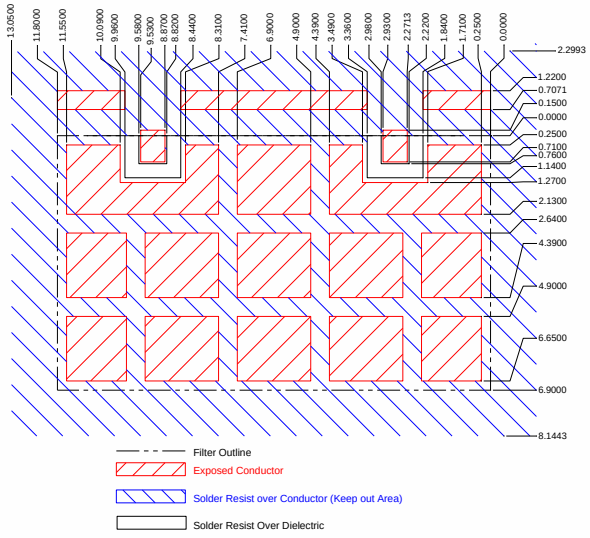
Mechanical Drawing



Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	10.20	0.13
B	3.40	0.30
C	0.76	0.13
D	0.38	0.13
E	0.38	0.13
F	1.80	0.13
G	6.60	0.13
H	4.10	max
I	0.76	0.13
J	0.95	0.20

PCB Layout



IMPORTANT: Please assure >=30mils (0.75mm) thickness of dielectric beneath the I/O Pads and the surrounding clearance zone down to the required ground plane.

Please assure sufficient ground vias between the top metal ground plane and the primary ground plane.

Recommended solder: 6 mils of SAC305 with reflow including 120s of soak at 217°C, and up to 30 sec peak at 241°C.

NOTE: A width of 9.50mm is necessary to support frequencies as low as 1885MHz for Band 39. If only higher frequency TDD bands are supported, then this smaller space can be allocated on the layout.

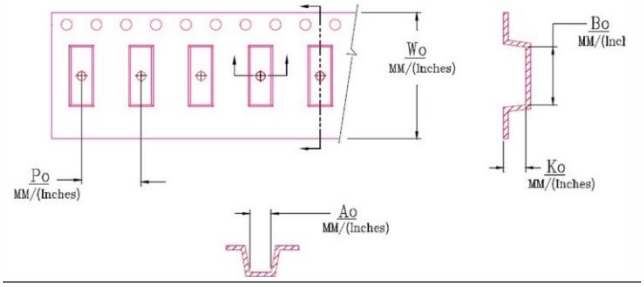
Packaging and Marking

Dimension	Units	Spec.
Reel Diameter	mm	330
Reel Weight	kg	5.5
Reel Quantity	ea.	500

Product Marking

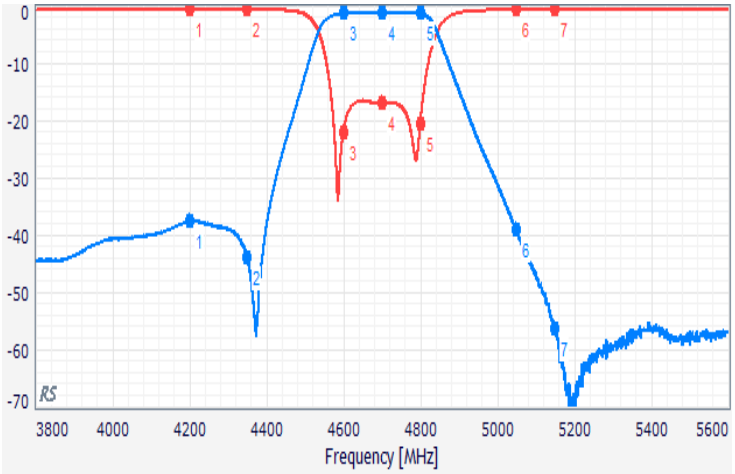
CTS
470
YWW

Customer Feed Direction → → →



Wo	Ao	Bo	Ko	Po
0.945 in 24.0 mm	0.217 in 5.5 mm	0.406 in 10.30 mm	0.165 in 4.2 mm	0.472 in 12.0 mm

Electrical Response



Marker	1	2	3	4	5	6	7
Freq[MHz]	4200	4350	4600	4700	4800	5050	5150
S11[dB](1)	-0.429	-0.456	-21.9	-16.9	-20.5	-0.501	-0.436
S21[dB](1)	-37.4	-43.8	-1.18	-1.14	-1.17	-39	-56.3