

## TMX W203

SAW Bandpass Filter – CDMA450 BLOCK D – Rx RF  
*Preliminary Specification (Rev. 3)*

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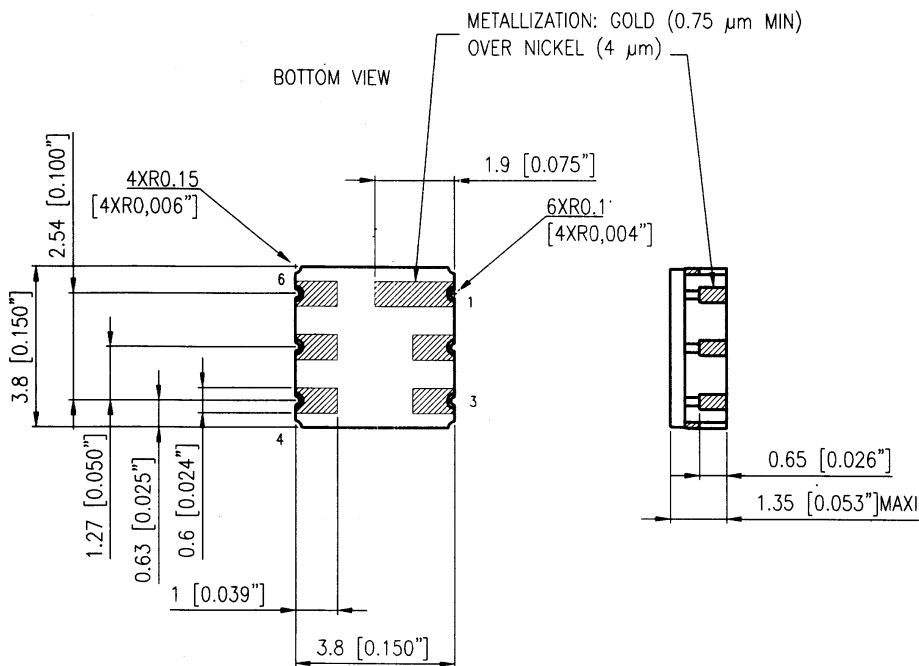
November 21<sup>st</sup>, 2005


### Features

- ❑ RF Filter for CDMA450 – Block D (Rx)
- ❑ High Rejection
- ❑ Small Size
- ❑ Single Ended Operation on 50 Ω without matching
- ❑ Hermetic Ceramic Package for Surface Mounted Technology

### Package Drawing & Pinout

The product is in conformance with the European RoHs Regulation 2002/95 using exemption #7 concerning solder alloy with more than 85% of lead. The lead is contained in solder alloy used for lid sealing.



	A	0,1mm/25,4mm (0,004"/1")
General Tolerance		±0,2mm ±0,008"

Pin Configuration	
Input	2
Output	5
Case ground	1, 3, 4, 6
To Be Grounded	1, 3, 4, 6

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### Technical Characteristics

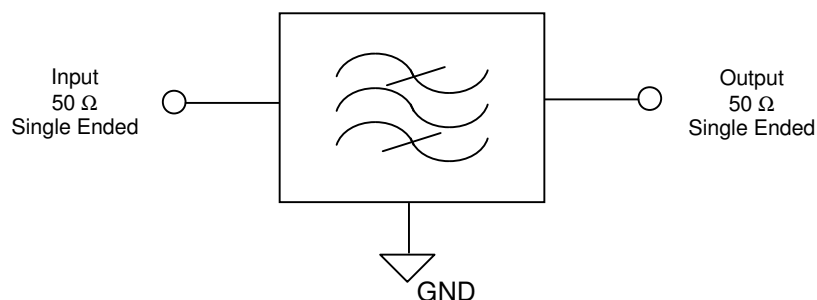
Operating Temperature range : [-30°C ; + 85°C]

Electrical Parameters	Unit	Minimum <sup>(1)</sup>	Typical <sup>(1)</sup>	Maximum <sup>(1)</sup>
Source Impedance (single ended)	Ω	-	50	-
Load Impedance (single ended)	Ω	-	50	-
Center Frequency fo	MHz	-	423.76	-
<b>Absolute attenuation</b>				
500 kHz to 382.5 MHz	dB	50	58	-
382.5 MHz to 411.67 MHz	dB	45	47	-
411.67 MHz to 415.85 MHz	dB	47	51	-
440 MHz to 462.5 MHz	dB	35	38	-
462.5 MHz to 782.5 MHz	dB	45	49	-
782.5 MHz to 1150 MHz	dB	40	44	-
1150 MHz to 1650 MHz	dB	35	38	-
1650 MHz to 2000 MHz	dB	30	36	-
Maximum Insertion Loss in 421.67 MHz–425.85 MHz	dB	-	1.7	2.5
Amplitude Variation in 421.67 MHz–425.85 MHz <sup>(2)</sup>	dB	-	0.4	1.2
Input VSWR in 421.67 MHz–425.85 MHz	-	-	1.3:1	1.8:1
Output VSWR in 421.67 MHz–425.85 MHz	-	-	1.4:1	1.8:1
Material	-	-	Lithium Tantalate	-
Temperature coefficient	ppm/°C	-	-32	-

**Notes :**

- (1) Typical values are nominal performances at room temperature, minimum and maximum values take into account the temperature and the manufacturing variations
- (2) The amplitude variation is defined as the maximum level – minimum level over the given bandwidth

### 50 Ω / 50 Ω Configuration



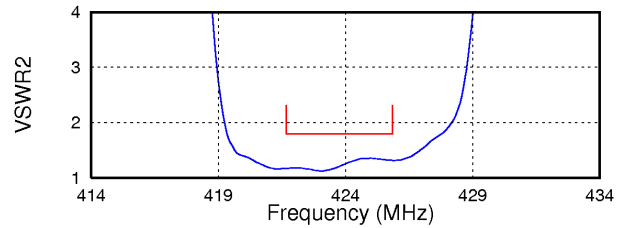
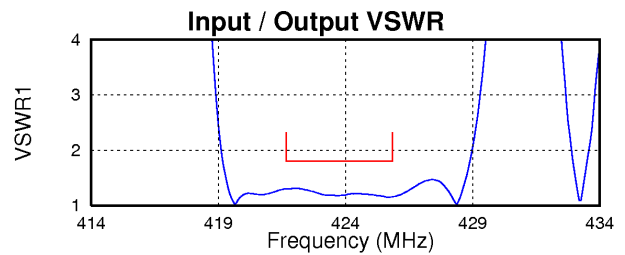
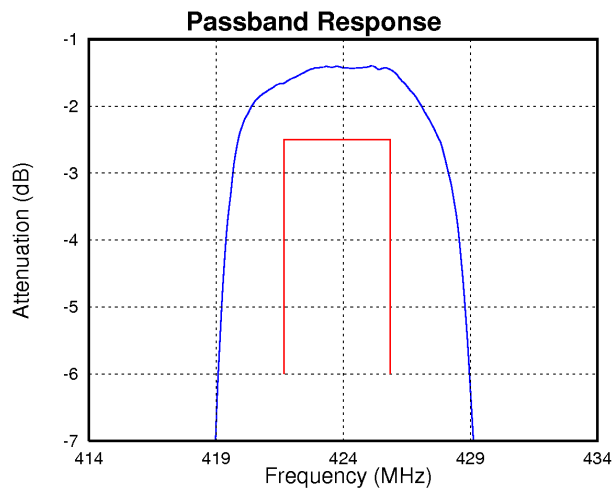
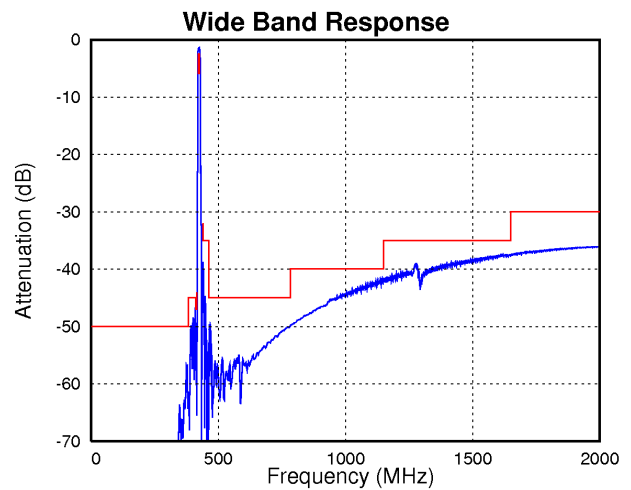
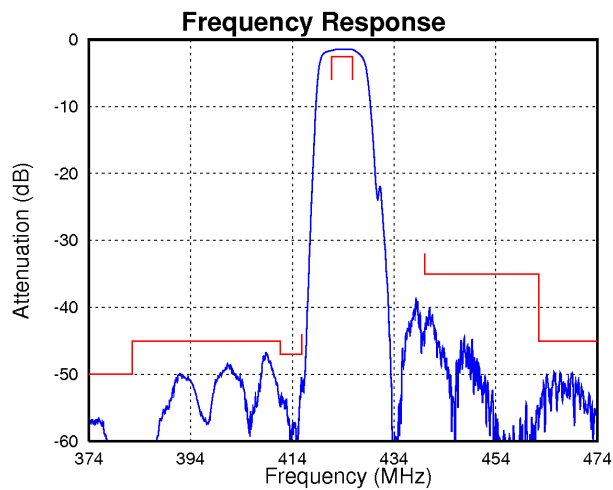
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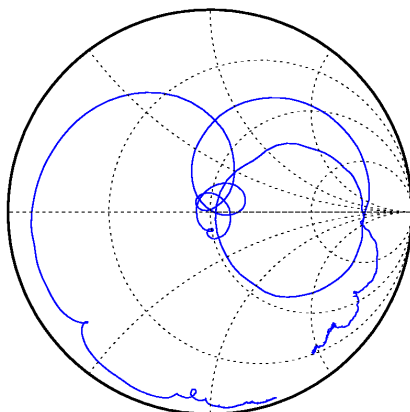
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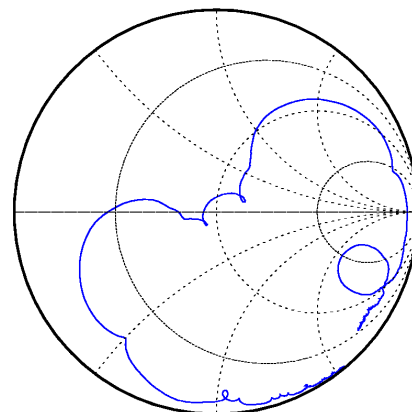
### Nominal Frequency Response (Measurement)



Input Smith Chart



Output Smith Chart



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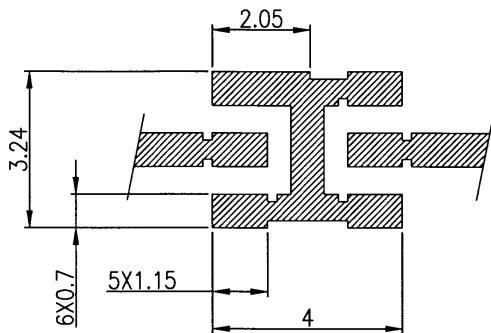
November 21<sup>st</sup>, 2005

### Maximum Ratings (applicable to the SAW filter only)

Operating Temperature Range	°C	[-30 °C ; +85 °C]
Storage Temperature Range	°C	[-50 °C ; +125 °C]
DC voltage	V	0
Input Power in 421.67 MHz – 425.85 MHz <sup>(1)</sup>	dBm	17 max
ESD Class (Human Body Model)	-	1A
Voltage supported (Human Body Model)	V	250 max
ESD Class (Charged Device Model)	-	C5
Voltage supported (Charged Device Model)	V	1000 max

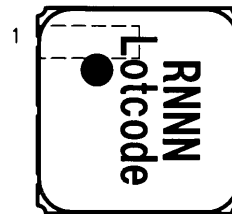
(1) Minimum life time at 50 °C > 50 000 hours

### Recommended Footprint



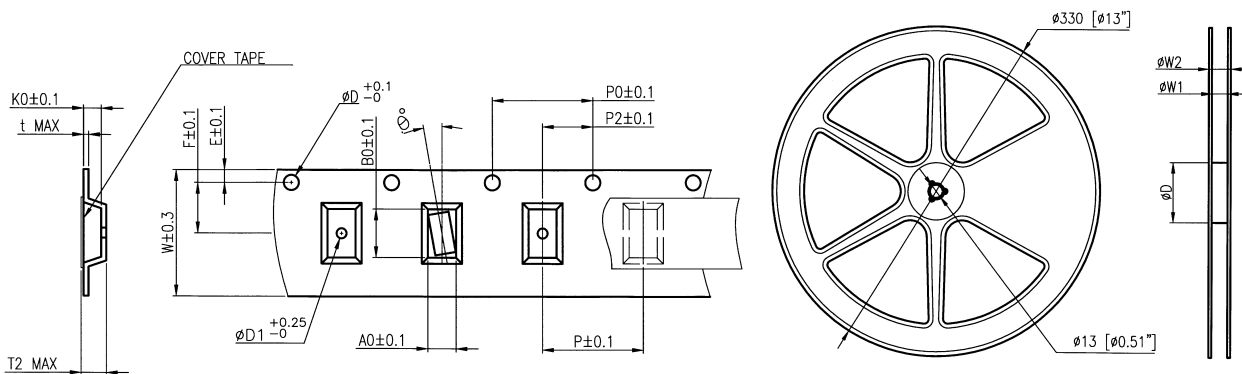
PCB VIEW FROM THE TOP  
ALL DIMENSIONS IN mm

### Marking



RNNN = W203  
Lotcode includes the manufacturing year and week

### Tape and Reel



	W	P	E	F	D	D1	P0	P2	A0	B0	K0	t <sub>max</sub>	T2	θ	W1	W2	ØD
mm	12.00	8.00	1.75	5.50	1.50	1.50	4.00	2.00	4.24	4.22	1.70	0.305	2.305	13°	12.5	20	60
inch	0.472	0.315	0.069	0.216	0.059	0.059	0.157	0.079	0.167	0.166	0.067	0.012	0.090	13°	0.49	0.787	2.36



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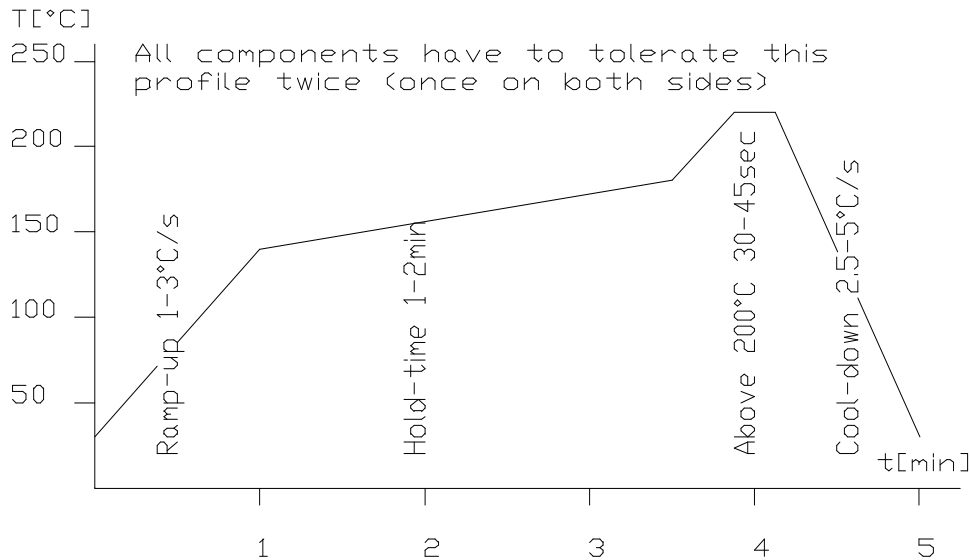
November 21<sup>st</sup>, 2005

### Recommended Reflow Profiles

#### Lead Process (Sn/Pb)

Typical reflow temperature for this profile is 240 °C of profile :

Example of profile :

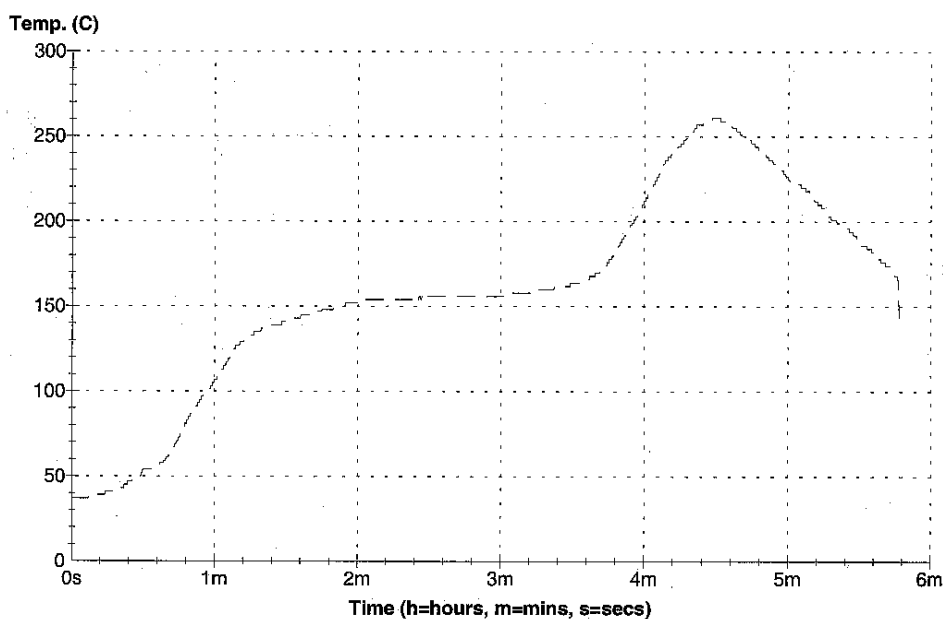


**Note :** Reflow profile to use depends on solder characteristics. Each soldering material supplier has its own recommendation. This profile is use for the product qualification step.

#### Lead Free Process :

Typical reflow temperature for this profile is 250 to 260 °C

Example of profile :



**Note :** Reflow profile to use depends on solder characteristics. Each soldering material supplier has its own recommendation. TEMEX use the above temperature profile to test reflow compliance of products. Usually the temperature peak is around 250-260 °C during 10 to 20 secondes.