



## Cisco Rugged Enclosure Option For the Cisco 3200 Mobile Router



# New Rugged Enclosure for Cisco 3200 Series Wireless & Mobile Router

- **Rugged Enclosure Manufactured by Cisco**
- **Designed for in-vehicle use**
- **Utilizes conductive cooling in place of cooling fans**
- **Sealed Enclosure to keep elements from internal components**
- **Configurations allow for up to 3 Cisco WMICs**
- **Approved Hardware Partners can incorporate 3<sup>rd</sup> party cards (cellular modems for example)**

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## Cisco 3200 Router Cards

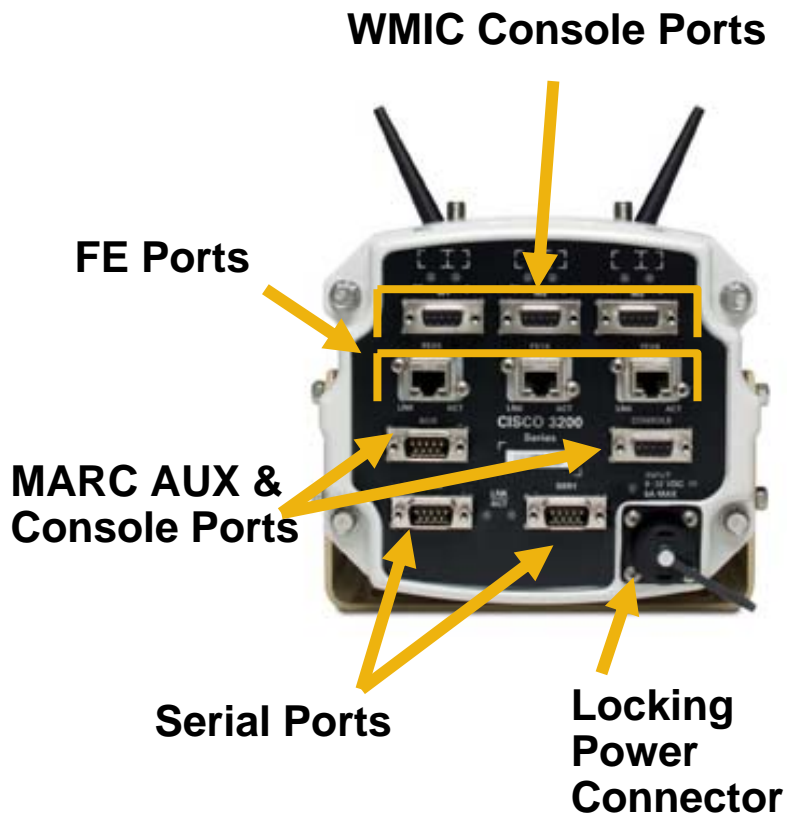


## Cisco 3200 Router in Rugged Enclosure

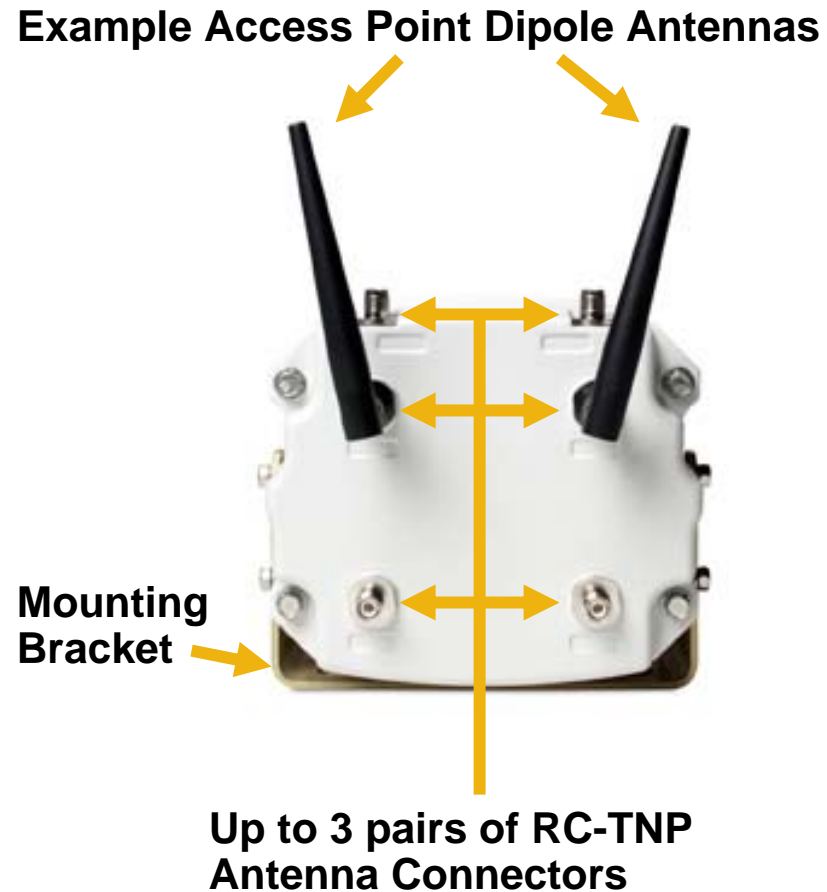


# Enclosure (Example Configuration)

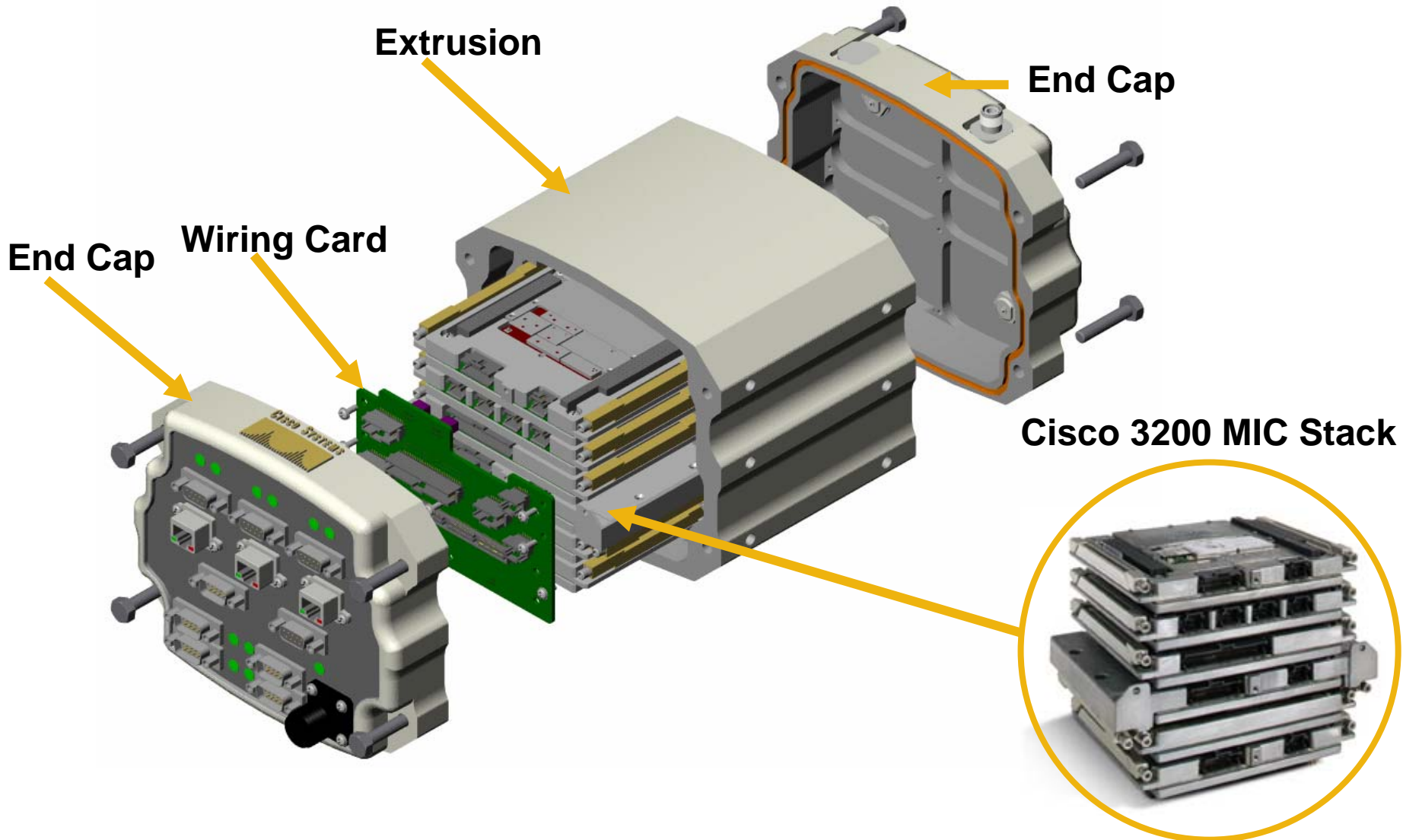
## Front View



## Back View



# Rugged Enclosure Assembly (Exploded View)



# Cisco 3200 Mobile Interface Card (MIC) Thermal Design

## Converts MIC from Convective to Conductive Cooling

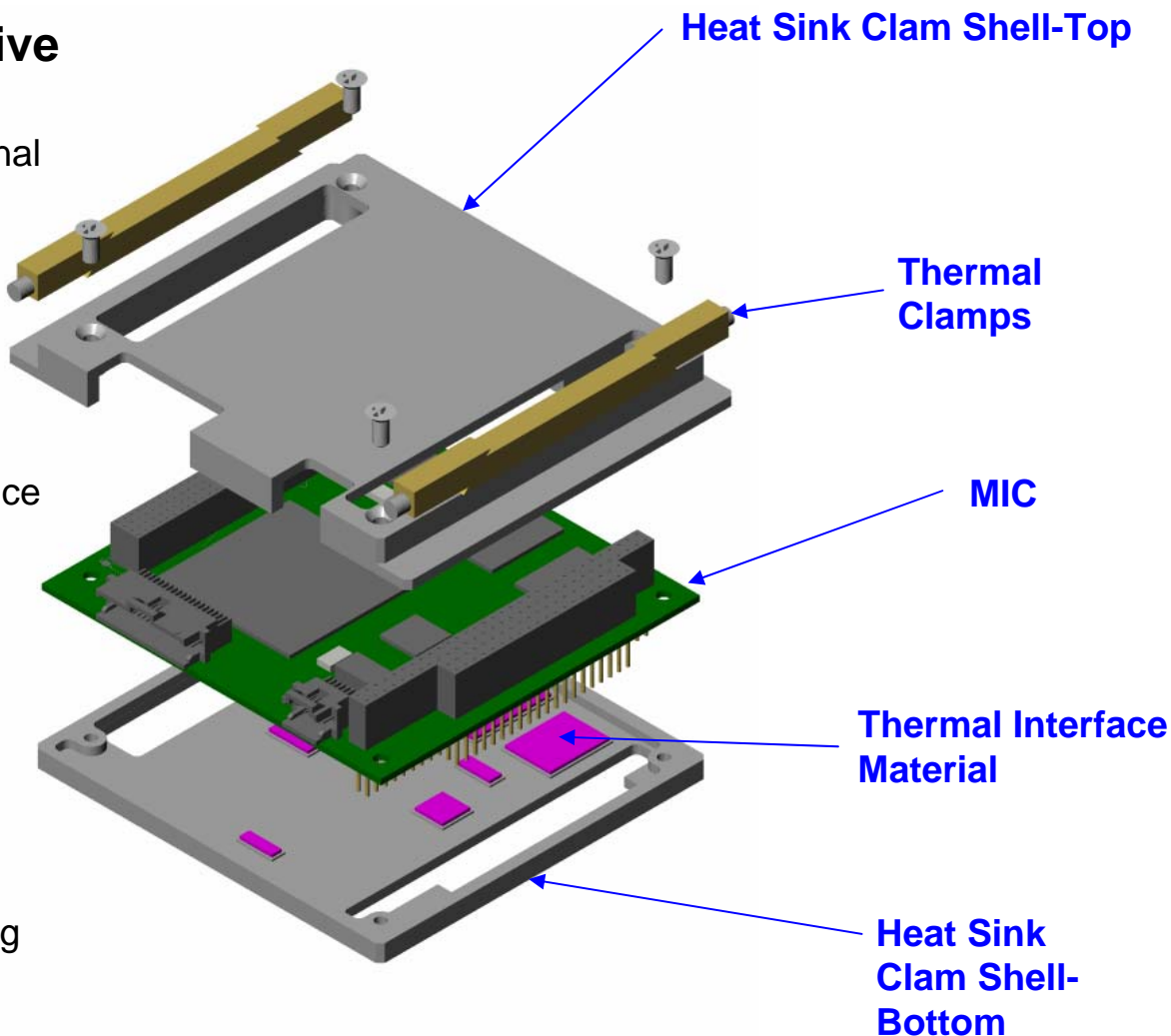
- Will allow for elimination of internal fans
- MIC Temperature will be independent of stack position

## Uses Heat Sink Clam Shell Approach

- Removes heat directly from device using conductive medium and transfer to cold wall

## Transfers Heat from MIC to Enclosure using Thermal Wedge Clamps

- Each MIC will use two Wedge Clamps
- Wedge Clamps provide mounting and thermal interface for MICs to enclosure



# Environmental Performance

<b>Feature</b>	<b>Requirements</b>
<b>Cooling Method</b>	<b>Passive Conductive Cooling</b>
<b>Operating Temperature</b>	<b>-40°C / +74°C High Temp Mil-Std-810F, Method 501.4, Procedure 2 - +74°C; Low Temperature Mil-Std-810F, Method 502.4, Procedure 2- -40°C</b>
<b>Storage Temperature</b>	<b>-40°C/+85°C High Temp Mil-Std-810F, Method 501.4, Procedure 1- +85°C; Low Temperature Mil-Std-810F, Method 502.4, Procedure 1 - -40°C</b>
<b>Operating Altitude (Low Pressure Operation)</b>	<b>Operational - 4572m (20000ft) Mil-Std-810F, Method 500.4, Procedure 2 4572m (20000ft) Non Operational - 12,200m (40,000ft)</b>
<b>Humidity</b>	<b>95% +/-4% Relative Humidity-max Mil-Std-810F, Method 507.4 Procedure I, Figure 507.4-1, five 48 hour aggravated cycles (10 days).</b>

# Environmental Performance

Feature	Requirements
<b>Fungus</b>	Mil-Std-810F, Method 508.5
<b>Salt Fog</b>	48 hour salt fog test MIL-STD-810F, Method 509.4, Procedure I, 96 hrs total (four 24 hr cycles).
<b>Dust &amp; Sun</b>	Tested to MIL-STD-810F, Method 510.4, Procedure I --Blowing Dust, 6hrs room temp, 6 hrs high temp
<b>Immersion</b>	Mil-Std_810, Method 512.4, Procedure I, 1m immersion/30 minutes
<b>Vibration</b>	Operational - MIL-STD-810F, Method 514.5, Procedure I, Category 20-Ground Vehicle Transportation, 15hrs per axis. Non-op - Non-Operational--Cat 4, figure 514.5c-1, .015g <sup>2</sup> /hz, 10-40hz, .00015g <sup>2</sup> /hz at 500hz or dwell with a 2g input at all resonant points for 1hr each, whichever is more stringent
<b>Shock</b>	Mil-Std-810F, Method 516.5 and Mil-S-901 Procedure 1--Functional Shock, figure 516.5-8, 40g's peak, 11ms duration 10-2000hz Procedure IV--Transit Drop, table 516.5-VI, drop height 48 inches
<b>EMI/EMC</b>	Mil-Std-461
<b>Safety</b>	UL 60950, Third Edition AS/NZS 3260CAN/CSA 22.2 No. 60950IEC 60950:1999EN 60950:2000

# Trunk Installation in Public Safety Vehicle

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# Availability

- The Cisco Rugged Enclosure is orderable today as a kit that bundles the Cisco 3200 Series Router cards with enclosure, power supply, and thermal plates for the interface cards.
- In June, customers and partners will be able to order this solution fully assembled by Cisco

## SKUs Available now (Solution requires assembly)

C3230TP-1WMIC-K9 (C3230 w/1 WMIC )

C3230TP-2WMIC-K9 (C3230 w/2 WMICs)

C3230TP-3WMIC-K9 (C3230 w/3 WMICs)

## SKUs starting in June (Solution is assembled by Cisco)

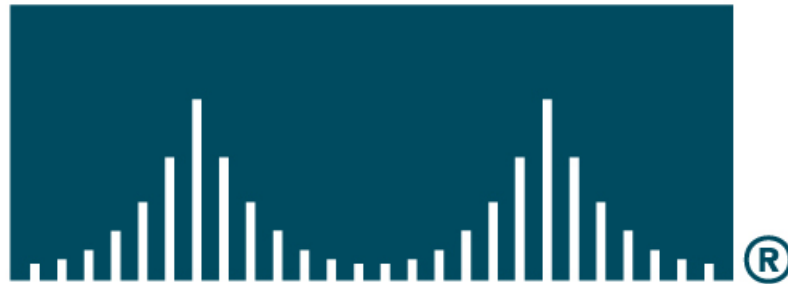
C3230ENC-1WMIC-K9 (Assembled 3230 w/1 WMIC)

C3230ENC-2WMIC-K9 (Assembled 3230 w/2 WMICs)

C3230ENC-3WMIC-K9 (Assembled 3230 w/3 WMICs)



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