

Product Specification

PCE3200AH

V. 0.3

Revision History

Version	Date	Revision Description
0.1	2012/2/4	Preliminary
0.2	2012/6/27	1. connector change to MMCX 2. Revised the operating temperature support range 3. Revised on the radio transmit power and sensitivity specification
0.3	2012/10/09	1. Improved TX power.

PRODUCT DESCRIPTION

The PCE3200AH is a adapting up-to-date Qualcomm chip, AR9590B (i-temp support), and targeting for enterprise-class platform. It is acting at 2.4GHz frequency band.



PRODUCT SPECIFICATION

General information	
Chipset	Atheros AR9590B
PA	SE2576L
Interface	PCIe
Operating voltage	Need both 3.3V and 5V voltage input PCIe Slot : DC 3.3 V $\pm$ 5% with Advanced DC Power management support PA: Extended DC power supply 5V
Antenna connectors	3 MMCX connectors
Temperature range	-40°C to + 70 °C (Operating temperature)
	-45°C to + 85°C (Storage temperature)
PCB Dimension	L x W 58 x 31 mm
Security	WPA, WPA2, 64/128 bit WEP, TKIP, and AES. hardware-based IEEE 802.11i encryption engine
Data rates	802.11b : 1, 2, 5.5, 11Mbps 802.11g : 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n : 20MHz bandwidth: ● 1Nss: 65Mbps @ 800ns GI; 72.2Mbps @ 400ns GI (Max); ● 2Nss: 130Mbps @ 800ns GI; 144.44Mbps @ 400ns GI (Max); ● 3Nss: 195Mbps @ 800ns GI; 216.7Mbps @ 400ns GI (Max); 802.11n : 40MHz bandwidth: ● 1Nss: 135Mbps @ 800ns GI; 150Mbps @ 400ns GI (Max.); ● 2Nss: 270Mbps @ 800ns GI; 300Mbps @ 400ns GI (Max.); ● 3Nss: 405Mbps @ 800ns GI; 450Mbps @ 400ns GI (Max.);
Tx channel width support	20MHz / 40MHz
Standard/Compliance	WECA (Wi-Fi & Wi-Fi5 compliance), IEEE802.11,b/g/n, RoHS and WEEE

Extreme Networks, Inc.

Regulation Certifications	FCC Part 15			
Preliminary Radio Specification				
Channel	Data rate	Typical AVG. Power @combined(dBm)	Tolerance	Typical RX Sensitivity @ combined(dBm)
802.11b (2.412~2.472GHz)	1 Mbps(no compliance with spectrum mask)	29	+1/-2 dB	≤ -95 dBm
	1 ~ 2 Mbps	29	+1/-2 dB	
	5.5 ~ 11 Mbps	29	+1/-2 dB	≤ -88 dBm
802.11g (2.412~2.472GHz)	6 ~ 24 Mbps	28	+1/-2 dB	≤ -91 dBm
	36 Mbps	27	+1/-2 dB	
	48 Mbps	25	+1/-2 dB	
	54 Mbps	24	+1/-2 dB	≤ -74 dBm
802.11n_HT20 (2.412~2.472GHz)	MCS 0/8/16	28	+1/-2 dB	≤ -89 dBm
	MCS 1/9/17	27	+1/-2 dB	
	MCS 2/10/18	27	+1/-2 dB	
	MCS 3/11/19	27	+1/-2 dB	
	MCS 4/12/20	27	+1/-2 dB	
	MCS 5/13/21	26	+1/-2 dB	
	MCS 6/14/22	25	+1/-2 dB	
	MCS 7/15/23	23	+1/-2 dB	≤ -72 dBm
	802.11n_HT40(2.422~2.462GHz)	MCS 0/8/16	28	+1/-2 dB
MCS 1/9/17		26	+1/-2 dB	
MCS 2/10/18		26	+1/-2 dB	
MCS 3/11/19		26	+1/-2 dB	
MCS 4/12/20		26	+1/-2 dB	
MCS 5/13/21		25	+1/-2 dB	
MCS 6/14/22		25	+1/-2 dB	
MCS 7/15/23		23	+1/-2 dB	≤ -69 dBm
Current consumption information				
Tx current consumption (without Jump wire)	Continuous TX (99% duty)	8 W		
Sleep Current	Sleep mode	≤ 100 mA		
OS support	Windows 2000/XP/Vista, Linux			

Extreme Networks, Inc.

Federal Communication Commission Interference Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 30cm between the radiator & your body.

Extreme Networks, Inc.

This device is intended only for OEM integrators under the following conditions:

- 1) The antenna must be installed such that 30 cm is maintained between the antenna and users, and
- 2) The transmitter module may not be co-located with any other transmitter or antenna.

As long as **2** conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed

IMPORTANT NOTE: In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

End Product Labeling

This transmitter module is authorized only for use in device where the antenna may be installed such that 30 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: "Contains FCC ID: QXO-24G32". The grantee's FCC ID can be used only when all FCC compliance requirements are met.

Manual Information To the End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.

Industry Canada statement:

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Ce dispositif est conforme à la norme CNR-210 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 30cm between the radiator & your body.

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 30cm de distance entre la source de rayonnement et votre corps.

This device is intended only for OEM integrators under the following conditions: (For module device use)

- 1) The antenna must be installed such that 30 cm is maintained between the antenna and users, and
- 2) The transmitter module may not be co-located with any other transmitter or antenna.

As long as **2** conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed.

Cet appareil est conçu uniquement pour les intégrateurs OEM dans les conditions suivantes: (Pour utilisation de dispositif module)

- 1) L'antenne doit être installée de telle sorte qu'une distance de 30 cm est respectée entre l'antenne et les utilisateurs, et 2) Le module émetteur peut ne pas être coïmplanté avec un autre émetteur ou antenne.

Tant que les **2** conditions ci-dessus sont remplies, des essais supplémentaires sur l'émetteur ne seront pas nécessaires. Toutefois, l'intégrateur OEM est toujours responsable des essais sur son produit final pour toutes exigences de conformité supplémentaires requis pour ce module installé.

IMPORTANT NOTE:

In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the Canada authorization is no longer considered valid and the IC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate Canada authorization.

NOTE IMPORTANTE:

Dans le cas où ces conditions ne peuvent être satisfaites (par exemple pour certaines configurations d'ordinateur portable ou de certaines co-localisation avec un autre émetteur), l'autorisation du Canada n'est plus considéré comme valide et l'ID IC ne peut pas être utilisé sur le produit final. Dans ces circonstances,

Extreme Networks, Inc.

l'intégrateur OEM sera chargé de réévaluer le produit final (y compris l'émetteur) et l'obtention d'une autorisation distincte au Canada.

End Product Labeling

This transmitter module is authorized only for use in device where the antenna may be installed such that 30 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: "Contains IC: 4141B-24G32".

Plaque signalétique du produit final

Ce module émetteur est autorisé uniquement pour une utilisation dans un dispositif où l'antenne peut être installée de telle sorte qu'une distance de 30cm peut être maintenue entre l'antenne et les utilisateurs. Le produit final doit être étiqueté dans un endroit visible avec l'inscription suivante: "Contient des IC: 4141B-24G32".

Manual Information To the End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module. The end user manual shall include all required regulatory information/warning as show in this manual.

Manuel d'information à l'utilisateur final

L'intégrateur OEM doit être conscient de ne pas fournir des informations à l'utilisateur final quant à la façon d'installer ou de supprimer ce module RF dans le manuel de l'utilisateur du produit final qui intègre ce module. Le manuel de l'utilisateur final doit inclure toutes les informations réglementaires requises et avertissements comme indiqué dans ce manuel.

Professional installation instruction

1. Installation personal

This product is designed for specific application and needs to be installed by a qualified personal who has RF and related rule knowledge. The general user shall not attempt to install or change the setting.

2. Installation location

The product shall be installed at a location where the radiating antenna can be kept 30cm from nearby person in normal operation condition to meet regulatory RF exposure requirement.

3. External antenna

Extreme Networks, Inc.

Use only the antennas which have been approved by the applicant. The non-approved antenna(s) may produce unwanted spurious or excessive RF transmitting power which may lead to the violation of FCC/IC limit and is prohibited.

4. Installation procedure

Please refer to user's manual for the detail.

5. Warning

Please carefully select the installation position and make sure that the final output power does not exceed the limit set force in relevant rules. The violation of the rule could lead to serious federal penalty.

Instructions d'installation professionnelle

1. Installation

Ce produit est destine a un usage specifique et doit etre installe par un personnel qualifie maitrisant les radiofrequences et les regles s'y rapportant. L'installation et les reglages ne doivent pas etre modifies par l'utilisateur final.

2. Emplacement d'installation

En usage normal, afin de respecter les exigences reglementaires concernant l'exposition aux radiofrequences, ce produit doit etre installe de facon a respecter une distance de 30 cm entre l'antenne emettrice et les personnes.

3. Antenn externe.

Utiliser uniuquement les antennes approuvees par le fabricant. L'utilisation d'autres antennes peut conduire a un niveau de rayonnement essentiel ou non essentiel depassant les niveaux limites definis par FCC/IC, ce qui est interdit.

4. Procedure d'installation

Consulter le manuel d'utilisation.

5. Avertissement

Choisir avec soin la position d'installation et s'assurer que la puissance de sortie ne depasse pas les limites en vigueur. La violation de cette regle peut conduire a de serieuses penalites federales.