- Application Advisory
- Proactive Supply Chain
- On-Demand Co-Sponsoring
- World-Class Quality OEM

AIRETOS ™
ELECTIVE TECHNOLOGIES
Global Specialists in RF Connectivity & Wireless Electronic Modules

E95 Class, Series X

MPN

AEX-AR9580-NX

UPC

8 12069 02062 8
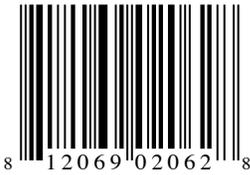
PRODUCT PAGE

CLICK OR SCAN

@ AIRETOS.com

EVALUATION / RFQ

Request Now

SAMPLES

@ OxfordTEC

450Mbps Three Chain, Dual-Band 802.11abgn WLAN – Extended Grade, Full Size MiniPCI Express Module

E95X based on QUALCOMM ATHEROS Reference Design XB116 (Peacock)

DATASHEET
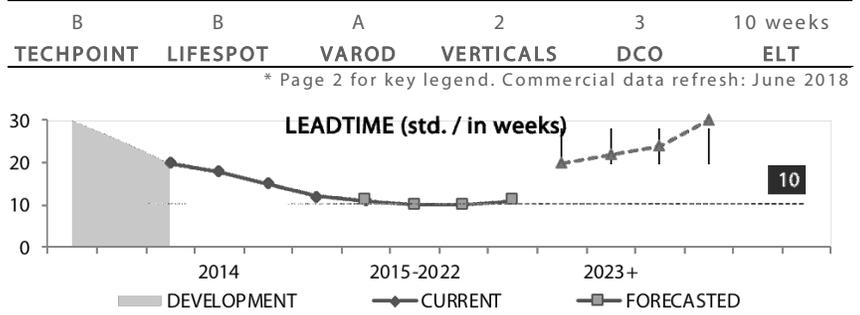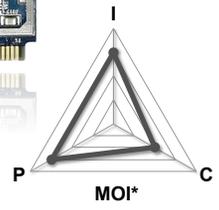
B	B	A	2	3	10 weeks
TECHPOINT	LIFESPOT	VAROD	VERTICALS	DCO	ELT

* Page 2 for key legend. Commercial data refresh: June 2018

LEADTIME (std. / in weeks)

10

2014   2015-2022   2023+

■ DEVELOPMENT   ◆ CURRENT   ■ FORECASTED

For further information, development samples, customization and volume pricing contact us via AIRETOS.com or via the VoxMicro Group Wholesales - for contacts see www.VoxMicro.TEL

Regional Offices in: N. America/U.S.A. – Europe/U.K. – Asia/Hong Kong-Taiwan 台灣   1 / 15

AIRETOS™
ELECTIVE TECHNOLOGIES
Global Specialists in RF Connectivity & Wireless Electronic Modules

Revision History

Releases	Date	Notes	Prepared	Approved
Version 1.0	2013/12/17	Standard Version Spec	Kuo	R Chang
Version 1.1	2014/01/24	Update TX / RX data	Amos	L Tu
Version 1.2	2014/05/30	Aligned PID to Qualcomm-Atheros Added Market Orientation Index	James	L Tu
Version 1.3	2014/07/07	Added Chipset Option	James	L Tu
Version 1.4	2018/06/15	Revised LT & Technical elements	A Stamatis	L Tu

* Commercial Key Legend

Indicators that assess the specific product for its position in the technology curve and the supply chain responsiveness it enjoys. They combine an inner-outer view: both from outside factors and from internal corporate and production support.

MOI [Market Orientation Index] — A value calculated from the grading of the factors below. Used as a rule-of-thumb to aid design-in and procurement evaluation. MOI depicts the present product affinity to Innovation (I), Customer Empathy (C) and Price Focus (P).

TECHPOINT — The position of the product within the specific technology-innovation curve for its class. VALUES: Advanced (A), Barring (B), Common (C), Dissolving (D).

LIFESPOT — Estimated lifespan indicator. VALUES: Agonist (A), Bold (B), Current (C), Distressed (D); the earlier the letter the earlier the position in the specific product lifecycle.

VAROD [Variants On-Demand] — An indicator of the depth and difficulties On-Demand product variations can reach and encounter. VALUES: Auxiliary (A), Basic (B), Core (C), Deep (D).

VERTICALS — It is an index of the spread of product applications in different vertical markets. VALUES: 1 to 4; the more the target markets the higher the number, the less the product specificity to markets.

DCO [Design Cost Orientation] — Commodity index related to the cost point for the product's design conception. VALUES: 1 to 4; the higher the number the more cost aware is the core design.

ELT [Effective Lead Time] — Adjusted lead-time in weeks. This is a compound value based on the timeframe for the fulfillment of the 90% of unscheduled orders received accounting also for the industrial lead-time and internal inventory buffering. VALUE: number of ELT weeks.

For further information, development samples, customization and volume pricing contact us via AIRETOS.com or via the VoxMicro Group Wholesales - for contacts see www.VoxMicro.TEL

Regional Offices in: N. America/U.S.A. – Europe/U.K. – Asia/Hong Kong-Taiwan 台灣   2 / 15

AEX-AR9580-NX – Doc. Ver.: 1.4

- Application Advisory
- Proactive Supply Chain
- On-Demand Co-Sponsoring
- World-Class Quality OEM

Global Specialists in RF Connectivity & Wireless Electronic Modules

For further information, development samples, customization and volume pricing contact us via AIRETOS.com or via the VoxMicro Group Wholesales - for contacts see www.VoxMicro.TEL

Regional Offices in: N. America/U.S.A. – Europe/U.K. – Asia/Hong Kong-Taiwan 台灣   3 / 15

AIRETOS™
ELECTIVE TECHNOLOGIES
Global Specialists in RF Connectivity & Wireless Electronic Modules

1.   Description

Dual Band 3x3 – Extended Grade: The AEX-AR9580 IEEE 802.11 a/b/g/n PCI-E WLAN is a highly integrated wireless, true full extended grade module for outdoor, enterprise and industrial level applications. Advance firmware features in the E95X series allow for 5/10/20/40MHz channel bandwidth, Enhanced Transmission Power Accuracy, High-resolution Spectral Analysis and so make this device the one of choice for modern industrial designs. Connect one, two or three antennas, as per your design specifications.

Enterprise Features: Narrow 5/10MHz channelization, Dynamic Frequency Selection (DFS), QFN support, Enhanced small packet performance, Multi-Country Roaming support (IEEE 802.11d, 802.11h Global Harmonization), Spatial Multiplexing, cyclic-delay diversity (CDD), low-density parity check (LDPC), maximum ratio combining (MRC), space time block code (STBC)

Enhancements over AR93xx: Video QoS (VQos), Dynamic Frequency Selection (DFS), Spectral Analysis, Support for Smart Antenna, Transmission Beamforming (TxBF), loopback mode for FIPS security certification.

Higher Output – Better Links: E95X series adopt XSPAN with SST3 and Multiple In, Multiple Out (MIMO) technology with enhanced output aggregate power at 24dBm and Tx Beamforming. Thus it provides larger coverage and increased specific link throughput.

2.   Top Features

- True Extended Grade, for high humidity and under severe weather operation (-20 ~ +70°C)
- Dual Band (DB), 2.4Ghz + 5 Ghz wireless connection up to 450Mbps
- Three antenna connectors, for MIMO 3Tx3R (3 Transmit & 3 Receive) technology
- Enhanced Tx Power Accuracy with up to 24dBm aggregate output
- Transmission Beamforming (TxBF)

AIRETOS™
ELECTIVE TECHNOLOGIES
Global Specialists in RF Connectivity & Wireless Electronic Modules

3.   Specifications

SOLUTION DESIGN	**Chipset**	Qualcomm-Atheros AR9580-AR1A (NI / 0 version)
	Standard	IEEE 802.11 a/b/g/n Wi-Fi
	Industrial Reference	Based on Qualcomm Atheros reference design XB116
APPEARANCE	**Communications Interface**	Mini PCIE format, PCI Express Standard 1.1 host I/O
	Form Factor	Mini PCIE format, standard mPCIe dimensions – Full size card
ANTENNA	**Configuration**	Three Streams (3 chains), 3x3, 3 Connectors, MIMO
	Type	Three I-PEX / U.FL connectors
WIRELESS PARAMETERS	**Frequency Band**	2.4 GHz ISM Bands 2.412-2.472 GHz, 2.484 GHz 5.15-5.25 GHz (FCC UNII-low band) for US/Canada, Japan and Europe 5.25-5.35 GHz (FCC UNII-middle band) for US/Canada and Europe 5.47-5.725 GHz for Europe 5.725-5.825 GHz (FCC UNII-high band) for US/Canada

	Data Transfer Rates	WLAN 2.4GHz: 11n: Up to 450Mbps(dynamic)
		                         11g: Up to 54Mbps(dynamic)
		                         11b: Up to 11Mbps(dynamic)
		WLAN 5GHz: 11n: Up to 450Mbps(dynamic)
		                         11a: Up to 54Mbps(dynamic)

	Media Access Control	CSMA/CA with ACK
	Channel	2.4GHz: 1-13 5GHz: 36-48 149-165
	Channel Spacing	5MHz
	Spreading / Modulation	802.11a/g/n: OFDM: BPSK, QPSK, 16-QAM, 64-QAM - DSSS: DBPSK, DQPSK, CCK 802.11b: CCK(11, 5.5Mbps), DQPSK(2Mbps), BPSK(1Mbps)
	RF Output Power	802.11a: Typical 15 dBm at 54M / 19dBm at 6M +- 2dBm 802.11b: Typical 19dBm +/- 2 dBm 802.11g: Typical 16 dBm at 54M / 19dBm at 6M +- 2dBm 802.11n 5G HT20 : Typical 12 dBm at MCS23 / 18dBm at MCS0 +/- 2dBm 802.11n 5G HT40 : Typical 11 dBm at MCS23 / 17dBm at MCS0 +/- 2dBm 802.11n 2.4G HT20 : Typical 14 dBm at MCS23 / 18dBm at MCS0 +/- 2dBm 802.11n 2.4G HT40 : Typical 11 dBm at MCS23 / 17dBm at MCS0 +/- 2dBm The three chain combined output power equals to single chain power plus 5dB (3Tx = 1Tx + 5dB).

For further information, development samples, customization and volume pricing contact us via AIRETOS.com or via the VoxMicro Group Wholesales - for contacts see www.VoxMicro.tel

Regional Offices in: N. America/U.S.A. – Europe/U.K. – Asia/Hong Kong-Taiwan 台灣   5 / 15

	RF Receive Sensitivity (Typical)	802.11a: 54M less then 81 dBm
		802.11b: 11M less then 94 dBm
		802.11g: 54M less then 81 dBm
		802.11n 2.4G: HT20 MCS7 less then 76 dBm
		                     HT40 MCS7 less then 73 dBm
		802.11n 5G: HT20 MCS7 less then 76 dBm
		                     HT40 MCS7 less then 71 dBm

	Operating Range	Open Space: ~300 m; Indoor: :~100 m (The transmission speed may vary according to the environment)
	Wireless Security	WEP 64-bit and 128-bit encryption WPA (Wi-Fi Protected Access) WPA2 (Wi-Fi Protected Access)
WORKING MODES		Infrastructure, Client, Bridge, Ad-hoc
SAFETY, EMISSION & REGULATORY		Compliant with FCC, CE and IC. Compliant with RoHS.
PROTOCOLS	**IEEE WLAN Network**	802.11n , 802.11g, 802.11b, 802.11a, 802.11d, 802.11e, 802.11j and 802.11i
	Other Standards	
	Industry Standards	
HOST SYSTEM REQUIREMENTS	**Operating System**	Windows (32 & 64 bits) XP/Vista/7/8, OSX, Linux
ENVIRONMENT	**Operating Temperature**	-20º ~ +70º Celsius
	Storage Temperature	-40º ~ +85º Celsius
	Operating Humidity	10%~90% non-condensing
	Storage Humidity	5%~90% non-condensing
ELECTRICAL	**I/O Voltage**	3.3V +/-10%
	Power Consumption	Transmit Packet Test HT 40*: 900 mA Receiver Packet Test HT 40*: 260 mA
MECHANICAL	**Dimensions**	50.95mm x 30mm x 3.15mm (with shielding)
	Weight	6.1 g
PACKAGING	**Packing style**	ESD Sleeves in Carton Box Package (optional: open plastic tray modality)
	Package Contents	AEX-AR9580 IEEE 802.11 a/b/g/n mPCI-E modules

For further information, development samples, customization and volume pricing contact us via AIRETOS.com or via the VoxMicro Group Wholesales - for contacts see www.VoxMicro.TEL

Regional Offices in: N. America/U.S.A. – Europe/U.K. – Asia/Hong Kong-Taiwan 台灣   6 / 15

AIRETOS™
ELECTIVE TECHNOLOGIES
Global Specialists in RF Connectivity & Wireless Electronic Modules

4. Ratings / Characteristics

4-1. Absolute Maximum Ratings

Symbol	Parameter	Max. Rating	Unit
V_{dd33}	Maximum I/O supply voltage	3.63	V
RF_{in}	Maximum RF input (reference to 50 Ω)	+10	dBm
T_{store}	Storage temperature	-40~+85	°C

4-2. Recommended Operating Conditions

Symbol	Parameter	Rating	Unit
V_{dd33}	I/O voltage	2.97~3.63	V

4-3. GPIO Interface Characteristics

Signal Name (To chip GPIO PIN)	Mini PCI-E PIN	Type	Driver	PU/DP Resistance
WLAN_LED	44	O	24 mA (Max)	None-PU (PU resistor function option available)
WLAN_DISABLE	20	I	_	None-PU (PU resistor function option available)

For further information, development samples, customization and volume pricing contact us via AIRETOS.com or via the VoxMicro Group Wholesales - for contacts see www.VoxMicro.TEL

Regional Offices in: N. America/U.S.A. – Europe/U.K. – Asia/Hong Kong-Taiwan 台灣   7 / 15

Global Specialists in RF Connectivity & Wireless Electronic Modules

5.   Mechanical Drawing

For further information, development samples, customization and volume pricing contact us
via AIRETOS.com or via the VoxMicro Group Wholesales - for contacts see www.VoxMicro.TEL

Regional Offices in: N. America/U.S.A. – Europe/U.K. – Asia/Hong Kong-Taiwan 台灣   8 / 15
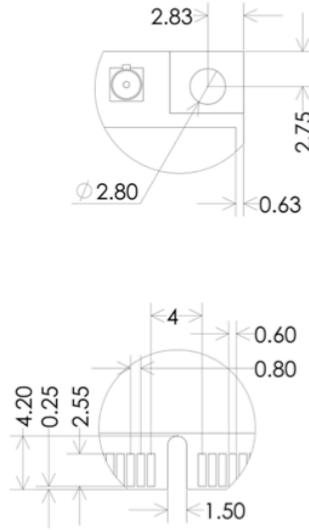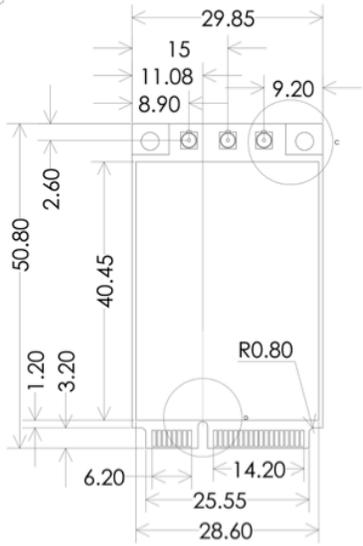
AIRETOS™
ELECTIVE TECHNOLOGIES
Global Specialists in RF Connectivity & Wireless Electronic Modules

6. Connector Pin-out Definitions

Pin No.	Definition	Basic Description	Type
2	+3.3V	3.3V power supply	Power
4	GND	Ground	GND
7	CLKREQ_L	Reference clock request.	Output
9	GND	Ground	GND
11	REFCLK-	Differential reference clock	Input
13	REFCLK+	Differential reference clock	Input
15	GND	Ground	GND
18	GND	Ground	GND
20	W_DISABLE_L	WLAN disable control. Low disables WLAN. Module P.U	Input
21	GND	Ground	GND
22	PERST_L	PCI express fundamental reset	Input
23	PERn0	Differential transmit	Output
25	PERp0	Differential transmit	Output
26	GND	Ground	GND
27	GND	Ground	GND
29	GND	Ground	GND
31	PETn0	Differential receive	Input
33	PETp0	Differential receive	Input
34	GND	Ground	GND
35	GND	Ground	GND
40	GND	Ground	GND
43	GND	Ground	GND
44	LED_WLAN_L	Active low signal. The signal is used to provide WLAN status indicators via LED.	Output
50	GND	Ground	GND
52	+3.3V	3.3V power supply	Power

Interface type	Bus Signaling	Standard
NGFF Edge	PCIe	PCI-SIG v1.1

*Physical Layer Form Factor follows standard PCIe definitions. Graphic representation below.

MODULE'S BOTTOM SIDE

MODULE'S TOP (EMI SHIELD) SIDE

KEY SLOT   KEY SLOT
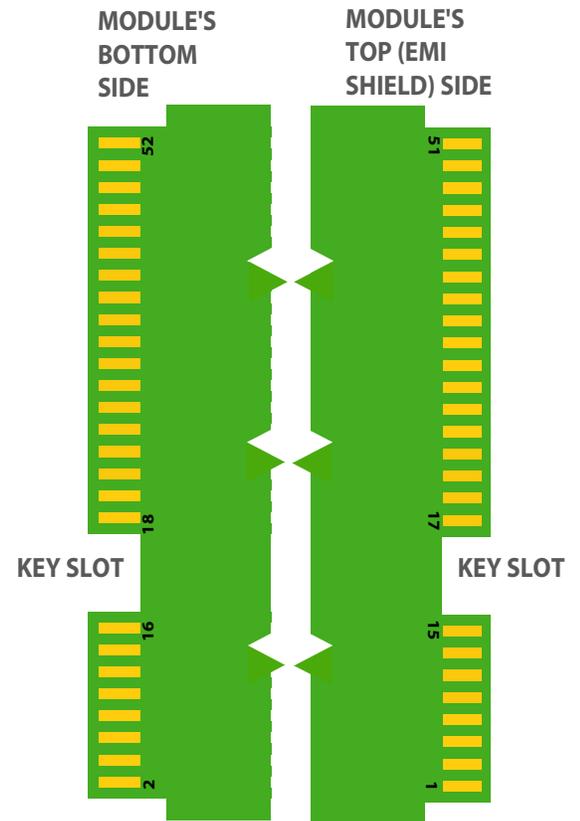
*Pin/Contact Numbers not appearing in the above table are either reserved or unused.

AIRETOS™
ELECTIVE TECHNOLOGIES
Global Specialists in RF Connectivity & Wireless Electronic Modules

7. Block Diagram
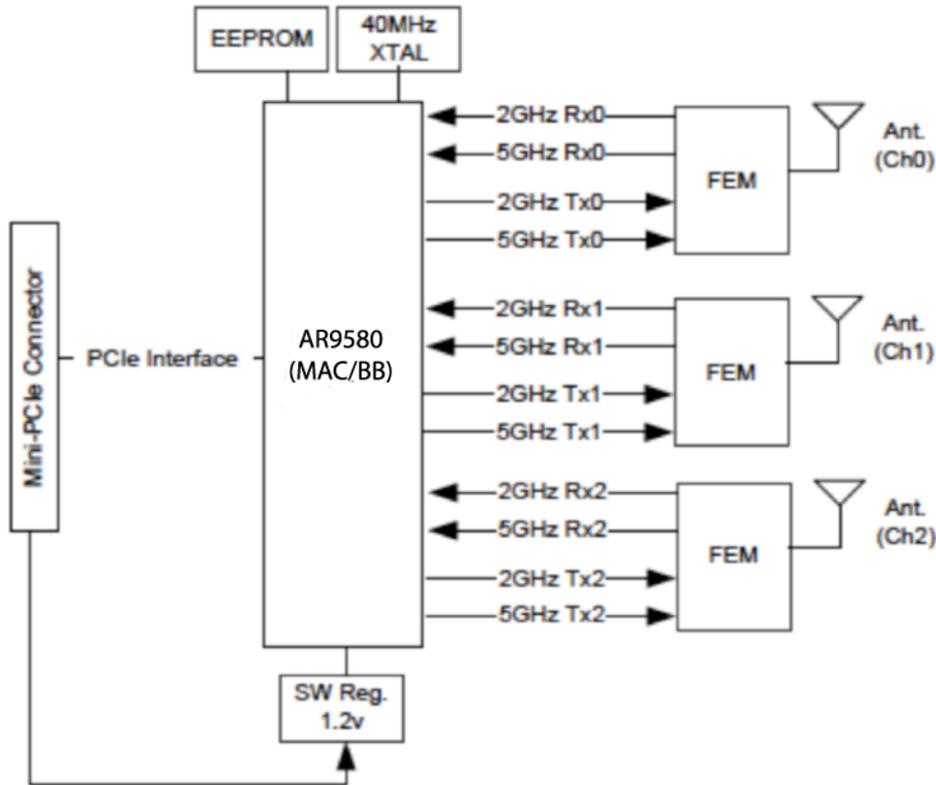
8. Environmental Performance Qualification

Throughput test at controlled thermal conditions with 70dB attenuation:

	Mbps at +25°C		Mbps at +85°C		Mbps at -40°C	
Product Behavior	CH9	CH161	CH9	CH161	CH9	CH161
Module Temp.	55.7	54.6	91.1	97.6	41.2	39.1
Board Temp.	48.6	47.9	108.3	102.4	40.1	37.4
Link Status	Pass	Pass	Pass	Pass	Pass	Pass

For further information, development samples, customization and volume pricing contact us via AIRETOS.com or via the VoxMicro Group Wholesales - for contacts see www.VoxMicro.TEL

Regional Offices in: N. America/U.S.A. – Europe/U.K. – Asia/Hong Kong-Taiwan 台灣   10 / 15

AIRETOS™
ELECTIVE TECHNOLOGIES
Global Specialists in RF Connectivity & Wireless Electronic Modules

9. Standard Domain Code & Identification

The Regulatory Domain pre-programmed as standard is 0x6A [wide open world mode].

Other regulatory domain codes can be pre-programmed on-request at production batch level.

Implemented as standard are identifiers following Qualcomm Atheros XB116 reference design:

	Vendor ID (VID)	Subsystem Vendor ID (SVID)	Device ID (DID)	Subsystem ID (SSID)
STANDARD WLAN	0x168C	0x168C	0x33	0x3123

10. Product Label

10-1. Back (PCB) Side Regulatory Label

Standard label is shown here. It includes the required marking for the following
  regulatory areas: FCC (USA), ETSI (Europe), EU Safety & Environmental.
Wireless LAN NIC MAC ID label (human legible and barcode).
Serial Number label (human legible and barcode) plus Variant Number.

10-2. On-Demand Labeling

Labels can be tailored to report customer's part number and regulatory compliance following
  Qualcomm Atheros XB116 reference design certifications for any of the countries and domains
  required.

11. ESD Processes

See Notices appended.

For further information, development samples, customization and volume pricing contact us
via AIRETOS.com or via the VoxMicro Group Wholesales - for contacts see www.VoxMicro.TEL

Regional Offices in: N. America/U.S.A. – Europe/U.K. – Asia/Hong Kong-Taiwan 台灣   11 / 15

- Application Advisory
- Proactive Supply Chain
- On-Demand Co-Sponsoring
- World-Class Quality OEM

AIRETOS™
ELECTIVE TECHNOLOGIES
Global Specialists in RF Connectivity & Wireless Electronic Modules

12. Standard Packaging, Storage & Shipping

ESD Sleeve, Inner Box & Outer Carton level standard packing schematic * :

	Module in ESD Sleeve	Inner Box Kit (K)	Master Carton (M)
CONTENT (UNITS)	1	60	960
INVENTORY SKU	AEX-AR9580-NX	AEX-AR9580-NX-K	AEX-AR9580-NX-M
OUTER DIMENSIONS	70 x 60 x 3.5 mm	204 x 165 x 65 mm	430 x 350 x 285 mm
GROSS WEIGHT	6.2 gr	430 gr	8000 gr
PICK & PACK METHOD	Padded envelope or carton box depending on quantity. Padded & separated.	In outer carton packaging.	As-is.
PACKAGING COMPLIANCE **	ANSI/ESD S20.20, IEC 61340-5-1, RoHS2	RoHS2	RoHS2
HTS CODE (HS)	8517.62	8517.62	8517.62
NAFTA / ECCN	On request	On request	On request

 * Packaging modality and artwork can be designed as per customer's requirements.
** The Packaging modality and the selection of its materials is made with environmental responsibility and commitment to resource preservation. Please reuse and recycle where possible.

The AEX-AR9580-NX constitutes a sensitive electronic device and caution is required when handling it. ESD handling, shipment and storage notices apply:

DO NOT OPEN OR HANDLE EXCEPT AT A STATIC-FREE WORKSTATION
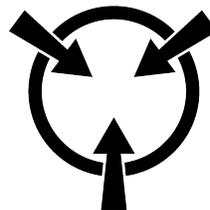
DO NOT SHIP OR STORE NEAR STRONG ELECTROSTATIC, ELECTROMAGNETIC OR RADIOACTIVE FIELDS

For further information, development samples, customization and volume pricing contact us via AIRETOS.com or via the VoxMicro Group Wholesales - for contacts see www.VoxMicro.TEL

Regional Offices in: N. America/U.S.A. – Europe/U.K. – Asia/Hong Kong-Taiwan 台灣   12 / 15

AIRETOS™

ELECTIVE TECHNOLOGIES

Global Specialists in RF Connectivity & Wireless Electronic Modules

13. Ordering Information

Public variants, their differential characteristics and ordering information:

	Ordering P/N	Variant IDs	Description
STANDARD PRODUCT	AEX-AR9580-NX	C / 02	- AIRETOS E95 Class, Series X - QCA-AR9580 AR1A Chipset - Enterprise Extended Grade - Standard product - Standard packaging

For further information, development samples, customization and volume pricing contact us
via AIRETOS.com or via the VoxMicro Group Wholesales - for contacts see www.VoxMicro.TEL

Regional Offices in: N. America/U.S.A. – Europe/U.K. – Asia/Hong Kong-Taiwan 台灣   13 / 15

AIRETOS™
ELECTIVE TECHNOLOGIES
Global Specialists in RF Connectivity & Wireless Electronic Modules

14.   NOTICES

STORAGE: The product shall be stored and the package shall remain closed according to storage environmental conditions noted within this datasheet.
- The product shall be stored in non-corrosive gas (Cl2, NH3, SO2, Nox, etc.). - No excess mechanical shock shall be applied including, but not limited to, sticking the packing materials by sharp object and dropping the product, in order to avoid damaging the packing materials.
SHELVE LIFE: Products left more than two years after reception need to have their specifications confirmed prior to use.
HANDLING: Care in handling or transporting products is required as excessive stress or mechanical shock may break products. – Cracks or damages on products' terminals may lead to changes in their characteristcs. Products are not to be touched with bare hands as this may result in electrostatic damage. - Application of static electricity or overvoltage may cause defect in the product or deterioration of its reliability, and caution must be taken against exposure to any static electricity generated by electrified items such as workbenches, soldering irons, tools, carrying containers, etc.
LAND PATTERN & DIMENSIONS: All ground terminals should be connected to the ground patterns. Furthermore, the ground pattern should be provided between IN and OUT terminals. Please refer to the specifications for standard land dimensions.
MECCHANICAL PLACEMENT: When mounting products connected to other components, products may be stressed and broken by uneven forces. To prevent such damages, compliance with specifications for the tools and interfaces being used is required.
CLEANING: As this Product is Moisture Sensitive, no cleaning is permitted.
OPERATIONAL EVNIRONMENTAL CONDITIONS: Products are designed to work as part of electronic compositions under normal environmental conditions (ambient temperature, humidity and pressure). Operation under the following circumstances may damage the products and leakage of electricity and abnormal temperature may occur:
> - In an atmosphere containing corrosive gasses (Cl2, NH3, SOx, NOx) or combustible and volatile gases - Dusty places – Places of direct sunlight
> - Water splashing places - Humid places where water condenses - Freezing places - etc.

In the instance of potential operation in such environments, consult with AIRETOS before actual use. Application of static electricity or excessive voltage while assembling and measuring is discouraged as it might be a cause of degradation or destruction.
INPUT POWER CAPACITY: Products shall be used in the input power capacity specified in this datasheet. If components are to be used beyond the documented input power capacity range, prior consultation with AIRETOS is advised.
LIMITATION OF APPLICATIONS: The product is designed and manufactured for consumer application only and is not available for any application listed below which requires signficanlty high reliability for the prevention of defects that may directly cause damage to the third party's life, body or property.
> - Aircraft equipment - Aerospace equipment - Undersea equipment - Power plant control equipment - Medical equipment - Transportation equipment (vehicles, trains, ships, etc.) - Traffic signal equipment - Disaster prevention / crime prevention equipment - Data-processing equipment - Application of similar complexity and/ or reliability requirements to the applications listed in the above.

If the product is to be used in equipment or electric circuit that requires high safety or reliability function / performances, sufficient reliability evaluation check for safety shall be performed prior to commercial shipment and consideration for the installation of a protective circuit at customer's design stage is strongly recommended. Please provide and appropriate fail-safe function on the customer's product to prevent any damages that may be caused by the abnormal function or the failure of our product.
QUALITY CONTROL: Testing and other quality control techniques are applied to the extent AIRETOS deems necessary. Unless mandated by government requirements, AIRETOS does not necessarily test all parameters of each product.
LIFECYCLE: Please note that AIRETOS may discontinue the manufacture of products, due to reasons such as end of supply of materials and/or components from our suppliers.
CONFORMITY: Please make sure that your product has been evaluated and confirmed against your specifications when the AIRETOS product is mounted to your product. Please conduct validation and verification of the products in actual condition of mounting and operating environment before commercial shipment of the equipment. All the items and parameters in this product specification have been prescribed on the premise that our product is used for the purpose, under the condition and in the environment agreed upon between you and us. You are requested not to use our product deviating from such agreement. We consider it not appropriate to include other terms and conditions for transaction warranty in product specifications, drawings or other technical documents. Therefore, even if your original part of this product specification includes such terms and conditions as warranty clause, product liability clause, or intellectual property infringement liability clause, we are not able to accept such terms and conditions in this product specification unless they are based on the governmental regulation or what we have agreed otherwise in a separate contact. We would like to suggest that you propose to discuss them under negotiation of contract.
DISCLAIMER: Please note that the only warranty that AIRETOS (DBA part of the VoxMicro LTD Group) provides regarding the products is its conformance to the specifications provided herein. Accordingly, AIRETOS shall not be responsible for any defects in products or equipment incorporating such products, which are caused under the conditions other than those specified in this specification.
AIRETOS HEREBY DISCLAIMS ALL OTHER WARRANTIES REGARDING THE PRODUCTS, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, THAT THEY ARE DEFECT-FREE, OR AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS. YOU AGREE TO INDEMNIFY AND DEFEND AIRETOS AND ITS AFFILIATES AGAINST ALL CLAIMS, DAMAGES, COSTS, AND EXPENSES THAT MAY BE INCURRED, INCLUDING WITHOUT LIMITATION, ATTORNEY FEES AND COSTS, DUE TO THE USE OF PRODUCTS.
AIRETOS's liability under this warranty shall be limited to products that are returned during the warranty period to the address designated by AIRETOS and that are determined by AIRETOS not to conform to such warranty. If AIRETOS elects to repair or replace such products, AIRETOS shall have reasonable time to repair such products or provide replacements. Repaired products shall be warranted for the remainder of the original warranty period. Replaced products shall be warranted for a new full warranty period.
For avoidance of doubt, AIRETOS shall not be liable for any defects that are caused by neglect, misuse or mistreatment by an entity other than AIRETOS including improper installation or testing, or for any products that have been altered or modified in any way by an entity other than AIRETOS. Moreover, AIRETOS shall not be liable for any defects that result from your or third party's design, specifications or instructions for such products.

For further information, development samples, customization and volume pricing contact us via AIRETOS.com or via the VoxMicro Group Wholesales - for contacts see www.VoxMicro.TEL

Regional Offices in: N. America/U.S.A. – Europe/U.K. – Asia/Hong Kong-Taiwan 台灣   14 / 15

- Application Advisory
- Proactive Supply Chain
- On-Demand Co-Sponsoring
- World-Class Quality OEM

AIRETOS™
ELECTIVE TECHNOLOGIES
Global Specialists in RF Connectivity & Wireless Electronic Modules

AIRETOS™ PROFILE

5 Locations – 80% Direct Market Coverage – Affiliate Support

Quality Functions at all Stages

Sourcing Assurance	Application / Custom / ODM	Materials Management	Supply Chain	FAE
R&D	DESIGN	PRODUCTION	DISTRIBUTION	TQM

Behind the Scenes

5%	10 YEARS				
OF REVENUE	HANDS-ON IN	DECADES OF	HUNDREDS OF	THOUSANDS OF	MILLIONS OF
• INVESTED IN INNOVATION R&D	• OEM/ODM WIRELESS MODULE MARKET	• CUMMILATIVE ENGINEERING EXPERIENCE	• ROUTINE INDUSTRIAL CUSTOMERS	• TUNING HOURS YEARLY	• INTERNAL AND EXTERNAL INVESTMENTS

World Distribution & Samples via OxfordTEC®

FREE SHIPPING
*on orders above $100

CARD, CHECK OR P.O.
NET Terms for trade & government

30-DAY RETURNS
peace of mind on all items

WORLD SHIPPING
*also via your courier for account customers

For further information, development samples, customization and volume pricing contact us via AIRETOS.com or via the VoxMicro Group Wholesales - for contacts see www.VoxMicro.TEL

Regional Offices in: N. America/U.S.A. – Europe/U.K. – Asia/Hong Kong-Taiwan 台灣 巨壇   15 / 15