AIRETOS C27 CLASS

Wi-Fi 7 + Bluetooth® 6.0 Industrial Module Platform

PRELIMINARY

AIRETOS® C27 Class | Qualcomm® FastConnect™ C7700 | 2×2 MIMO | Tri-Band | PCIe + BT (UART/USB)

Wi-Fi 7 · BT 6.0 · INDUSTRIAL -40/+85°C · 2×2 · 320 MHz · TRI-BAND · MLO · WPA3 · BLE RANGING · WI-FI RANGING · WI-FI SENSING · AUX RADIO

- Tri-band Wi-Fi 7 (2.4 / 5 / 6 GHz) — 320 MHz channels, 4096-QAM, Multi-Link Operation; up to 5.76 Gbps PHY rate
- Bluetooth 6.0 with Channel Sounding, LE Audio and BLE Long Range (Coded PHY) — selectable UART or USB host interface
- Dedicated Wi-Fi Aux Radio (concurrent background scan / standby listen); 802.11az ranging and CSI-based sensing
- True industrial grade -40°C to +85°C | one 12 × 16 mm LGA core, three carrier form factors from a single design

TECHNICAL SUMMARY

Silicon platform	Qualcomm® FastConnect™ C7700 (QCC2072; pin-compatible QCC2070, 160 MHz, on request)
Wi-Fi standard	IEEE 802.11be/ax/ac/n/a/b/g (Wi-Fi 7)
Frequency bands	2.4 GHz, 5 GHz, 6 GHz — tri-band, non-simultaneous
Max PHY rate	5.76 Gbps (320 MHz, 2SS, 4096-QAM); 2.88 Gbps at 160 MHz
Spatial streams	2×2 MIMO (2-stream)
Channel width	20 / 40 MHz (2.4 GHz); up to 160 MHz (5 GHz); up to 320 MHz (6 GHz)
Wi-Fi features	MLO (eMLSR), MU-MIMO, UL/DL OFDMA, TWT, BSS Coloring, Preamble Puncturing
Security	WPA3-Personal / WPA3-Enterprise, WPA2, 802.1X, SAE
RF output / RX sensitivity	Key numbers in RF Performance table, page 2
Bluetooth	6.0 BR/EDR + LE — Channel Sounding, LE Audio (LC3), LE Long Range, LE 2M PHY
BT host interface	Selectable: UART or USB (firmware-selected per variant)
Wi-Fi host interface	PCIe Gen 3 ×1 (USB 3.0 and SDIO 3.0 variants on roadmap)
Audio interfaces	I2S / PCM; SoundWire (firmware support pending)
Power supply	3.3 V single rail (tolerance per Device Specification), integrated PMU
Operating temp	-40°C to +85°C (Industrial Grade)
Certifications — phase 1	Being prepared: FCC (USA) · ISED (Canada) · CE/RED + EN 18031-1 (EU) · TELEC (Japan)
	NCC (Taiwan) · RCM (Australia/NZ) · SRRC (China) · KC (Korea) · ANATEL (Brazil)
Certifications — phase 2	Further markets on demand (e.g. Indonesia, Vietnam, India, Singapore, Mexico, Thailand)
OS support	Linux (Wi-Fi 7 driver + BT HCI), Windows 10 / 11 — under engagement

COMMERCIAL SUMMARY

Year Released	2026	**Expected Lifespan**	2036+ (YTEOL >10 yr)
Production	Eng. samples now	**Lead time**	At MP release
Samples	On request	**Certifications**	Being prepared (9)

COMPATIBLE ANTENNA OPTIONS

Antenna series	Type	Band Coverage	Gain	Certification
OXFORDTEC® WAPT	Internal, PCB Dipole	2.4 / 5 / 6 GHz tri-band	≤ 4 dBi	Qualifying
OXFORDTEC® WAFT	Internal, FPC Dipole	2.4 / 5 / 6 GHz tri-band	≤ 4 dBi	Qualifying
OXFORDTEC® WANT	External, RP-SMA	2.4 / 5 / 6 GHz tri-band	≤ 4 dBi	Qualifying
Embedded	Chip antenna	2.4 / 5 / 6 GHz tri-band	per design	On request

Additional antenna types available. Antenna pairing guidance on request; modular approvals and approved-antenna lists publish when granted.

DISTRIBUTION & SAMPLES

VOXMICRO direct	Samples and evaluation quantities — airetos.voxmicro.com/C27-class
DigiKey	Listing in progress
Arrow Electronics	Listing expected — volume supply and design-in support
Regional partners	Authorised VARs, distributors and representatives worldwide

VOXMICRO MPN	Series	Wi-Fi I/F	BT I/F	Grade	Form Factor	Dimensions	Pins	RF	SPQ	MRSP
ACB-QCC2072-1YIT	C27B	PCIe	UART/USB	Industrial	LGA Chip-on-Board (solder-down)	12 × 16 × ~2.1 mm	108	Trace	500	$39.95
AFR-QCC2072-1YI1	C27R	PCIe	UART/USB	Industrial	M.2 2230 E-Key (socketed)	22 × 30 mm	67	MHF1	60	$44.95
AFM-QCC2072-1YI1	C27M	PCIe	USB	Industrial	M.2 2242 B+M-Key (socketed)	22 × 42 mm	59	MHF1	60	$44.95
AEH-QCC2072-1YI1	C27H	PCIe	UART/USB	Industrial	mPCIe Half-Mini (socketed)	30 × 26.8 mm	52	MHF1	60	$44.95
ACB-QCC2072-3YIT *	C27B	SDIO 3.0	UART	Industrial	LGA Chip-on-Board (solder-down)	12 × 16 × ~2.1 mm	108	Trace	500	$39.95

*Suffix: host I/F 1 = PCIe · 3 = SDIO 3.0 (USB 3.0: part number on release) | Y = nominal RF grade | I = Industrial | T = trace (LGA), 1 = MHF1 | MRSP = suggested list price (USD) | * roadmap; part numbers provisional; on-carrier TBC*

PILLAR 1 — Long-Range Bluetooth Ranging

Bluetooth 6.0 Channel Sounding for secure, accurate distance measurement, combined with BLE Long Range (Coded PHY) for extended-reach links — asset location, access control and proximity services in one radio.

PILLAR 2 — Sensing & Location

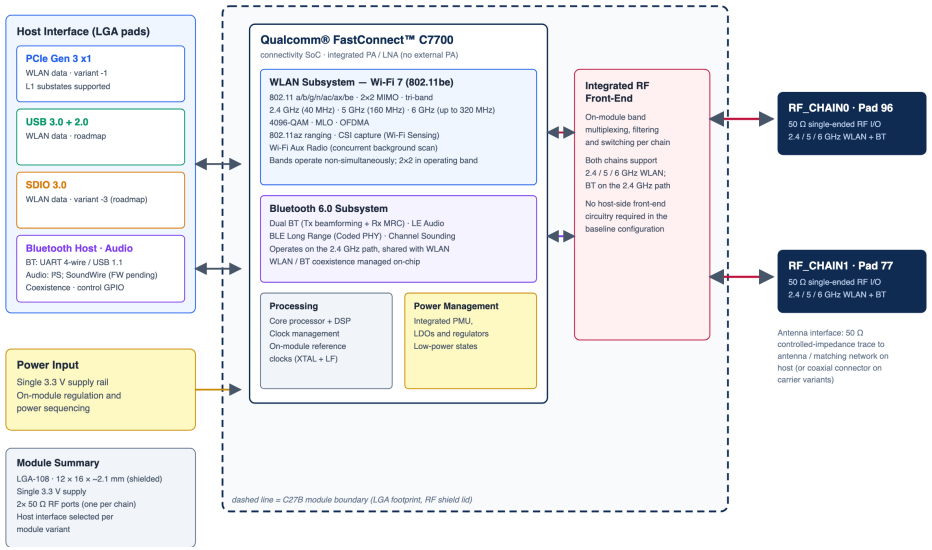
802.11az fine-timing ranging and channel-state (CSI) capture for Wi-Fi Sensing — presence, motion and positioning without extra sensors, on the same tri-band Wi-Fi 7 radio.

PILLAR 3 — Wi-Fi Aux Radio

A dedicated auxiliary radio performs background scanning and standby listening while the primary radios sleep or carry data — faster roaming decisions and wake-from-sleep responsiveness.

AIRETOS – Official · PRELIMINARY — subject to change; prices in USD, project pricing on discussion · © 2026 VOXMICRO

Module Block Diagram — C27B (LGA core)



Silicon Selection Guide

Feature	QCC2072	QCC2070
Bands	2.4 / 5 / 6 GHz	2.4 / 5 / 6 GHz
Max channel width	320 MHz (6 GHz)	160 MHz
Max PHY rate (2SS)	5.76 Gbps	2.88 Gbps
Wi-Fi standard	Wi-Fi 7	Wi-Fi 7
Bluetooth 6.0	Yes	Yes
Wi-Fi Aux Radio	Yes	Yes

Pin-compatible silicon options on the same footprint and carriers.

RF Performance — Preliminary

Parameter (per chain)	2.4 GHz	5 GHz	6 GHz
Wi-Fi TX — 11b 1 Mbps	+22 dBm	—	—
Wi-Fi TX — EHT40 MCS0	+20 dBm	+18.5 dBm	+18 dBm
Wi-Fi TX — EHT80 MCS0	—	+18 dBm	+17.5 dBm
Wi-Fi TX — EHT320 MCS0 / MCS13	—	—	+16 / +11 dBm
Wi-Fi RX — 11b 1 Mbps	–96 dBm	—	—
Wi-Fi RX — EHT20 MCS0	–90 dBm	–90 dBm	–90 dBm
Wi-Fi RX — EHT160 MCS0	—	–81 dBm	–81 dBm
Wi-Fi RX — EHT320 MCS0	—	—	–81 dBm
Bluetooth TX (Y grade)	Class 1.5		
Bluetooth RX — BR / LE 1M	–94 to –96 dBm		

Wi-Fi TX = production target power (±1.5 dB), to be confirmed on production units; RX = measured on engineering samples. Conducted, per chain, room temperature. Preliminary — final figures publish with the Device Specification. Ships as Y grade (Bluetooth Class 1.5). A Class 1 Bluetooth grade (+20 dBm) is planned after DVT.

Module Form Factor Gallery



LGA CoB — C27B
12 × 16 mm



M.2 E-Key — C27R
22 × 30 mm



M.2 B+M-Key — C27M
22 × 42 mm



mPCIe Half-Mini — C27H
30 × 26.8 mm

Engineering samples shown; production units carry final marking.

QUALITY & RELIABILITY

Operating Temp	-40°C to +85°C (Industrial Grade)
Storage Temp	-40°C to +125°C (target)
MSL Rating	Level 3 (LGA, target)
Reflow	IPC/JEDEC J-STD-020 (LGA, qualification pending) / N/A (socketed)
MTBF	TBC — publishes with the Device Specification
Environmental	RoHS 3 (EU 2015/863), REACH, lead-free SAC305 — design targets; declarations at MP
Lifecycle	YTEOL > 10 years; 12-month last-buy notice

SOFTWARE & BSP SUPPORT

Linux	ath12k-based Wi-Fi driver + Qualcomm reference stack; BT HCI — STA + SoftAP
Windows	Windows 10 / 11 (x86-64) — Qualcomm driver package, under engagement
Host platforms	Arm64 and x86-64 Linux hosts; reference platforms on request
BSP Pkg	Wi-Fi + BT firmware, BDF, hostapd / wpa_supplicant, BT stack, test-mode — planned Q4 2026
BT audio	I2S/PCM or HCI audio per host platform; SoundWire (firmware support pending)
Features	SoftAP, WPA3-SAE, MLO (eMLSR), OFDMA, TWT, 802.11az ranging, CSI capture — with the BSP
Security	Security bulletins + vulnerability handling per EU CRA readiness program

Target Applications

- Robotics, AGV / AMR & cobots
- Portable industrial & medical equipment
- Logistics & asset tracking
- Drones, UAVs & aerial platforms
- Smart factory & predictive maintenance
- Edge-AI gateways & inference appliances
- Smart buildings & occupancy sensing
- Transportation & fleet systems

Ready to evaluate?
Engineering samples available now to qualified industrial OEMs — contact the VOXMICRO sales team.
Drop-in silicon options without host redesign; design-in documentation and support on request.

airetos.voxmicro.com/C27-class
VOXMICRO | Los Angeles · London · Taipei
Industrial Wireless Module Solutions

AIRETOS – Official · PRELIMINARY — subject to change; prices in USD, project pricing on discussion · © 2026 VOXMICRO