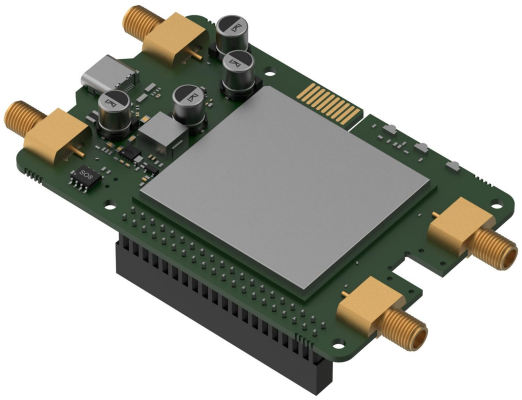
EBD021

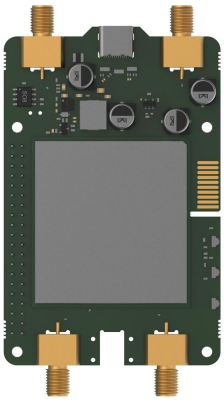
Teltonika EBD021 Calyx 4G LTE-FDD (CAT 4) Embedded Raspberry Pi hat+

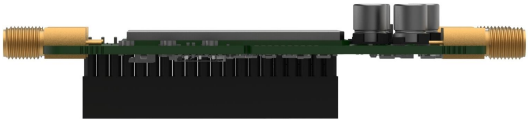
Product Overview

Teltonika EBD021 Calyx 4G LTE-FDD (CAT 4) Embedded Raspberry Pi hat+, 2x SMA for Mobile antennas, 1 x SIM slot, USB Type-C receptacle, 40 - pin GPIO Header









Specifications

Overview Summary:

The Teltonika Calyx EBD021 is a compact 4G LTE Cat 4 Raspberry Pi HAT+ designed to deliver reliable mobile internet connectivity for embedded systems and IoT deployments. Built for Raspberry Pi 4 and Raspberry Pi 5 platforms, this expansion board integrates directly onto your SBC while providing stable LTE connectivity through dual SMA antenna ports and a Nano SIM slot. Its industrial-grade design makes it ideal for remote installations, automation projects, monitoring systems, and edge computing applications across South Africa.

With GPIO modem control, USB Type-C connectivity, and support for low-latency PCM audio transfer, the Calyx EBD021 offers flexible integration for developers, integrators, and industrial users. Whether you need backup internet, remote telemetry, or cellular networking in locations without stable Wi-Fi, this solution is built for dependable performance. Buy now and upgrade your Raspberry Pi project with secure and efficient 4G LTE connectivity.

Performance tier: Industrial-grade 4G LTE Embedded Connectivity

Uses: IoT deployments, remote monitoring, Raspberry Pi networking, industrial automation, telemetry systems, edge computing, mobile internet access, embedded development

Overview:

Teltonika CALYX Embedded Raspberry Pi HAT+ for Reliable Cellular Connectivity
The Teltonika CALYX Embedded Raspberry Pi HAT+ is engineered to deliver dependable mobile internet connectivity for Raspberry Pi 4 and Raspberry Pi 5 environments where traditional wired or wireless networking is limited or unavailable. Designed for developers, integrators, and industrial IoT deployments, this compact solution provides stable 4G LTE connectivity directly through your single-board computer setup while maintaining a clean and space-saving installation.

Its direct-mount HAT+ design integrates neatly onto the Raspberry Pi platform, eliminating unnecessary clutter and simplifying deployment in embedded systems. With GPIO modem control support, users can efficiently manage modem operations such as wake, reset, and control functions directly through Raspberry Pi pins. PCM audio functionality also enables low-latency audio communication for applications requiring streamlined voice or audio transmission.

Description:

The Teltonika EBD021 CALYX Embedded Raspberry Pi HAT+ is a compact cellular connectivity module built for Raspberry Pi 4 and 5 platforms. Featuring 4G LTE Cat 4 technology, dual SMA antenna connectors, GPIO modem management, and PCM audio support, this solution enables reliable mobile networking for industrial automation, remote monitoring, IoT deployments, edge computing, and embedded development projects. Its space-efficient design and direct Raspberry Pi integration make it ideal for professional embedded applications requiring stable internet access beyond traditional Wi-Fi or Ethernet coverage.

Features:

Built for Embedded and IoT Applications
Whether deployed in industrial automation, telemetry, smart devices, or remote monitoring systems, CALYX provides dependable mobile broadband access without requiring external USB modems or bulky networking equipment. The compact footprint makes it especially suitable for installations where space efficiency matters.

This model supports LTE-FDD Cat 4 connectivity, offering practical mobile internet performance for data-intensive embedded workloads and field deployments.

Connectivity and Integration Advantages
The CALYX HAT+ has been designed for streamlined integration into Raspberry Pi environments while maintaining flexible connectivity options.

Key integration benefits include:

- Direct compatibility with Raspberry Pi 4 and Raspberry Pi 5
- Compact HAT+ mounting design for clean installations
- GPIO modem control for advanced device management
- PCM audio support for low-latency communication
- USB Type-C receptacle for modern connectivity
- Single SIM slot for mobile network access
- Dual SMA connectors for external mobile antennas

Technical Details
Important hardware details for the Teltonika EBD021 include:

- Part Number / SKU: EBD021

- Cellular technology: 4G LTE-FDD Cat 4
- Form factor: Embedded Raspberry Pi HAT+
- Antenna connectors: 2 x SMA
- SIM support: 1 x SIM slot
- USB interface: USB Type-C receptacle
- GPIO interface: 40-pin GPIO header
- Audio support: PCM enhanced audio

Designed for Flexible Cellular Expansion
The CALYX platform is available across multiple connectivity variants, allowing developers and system integrators to select the right performance level for their deployment requirements. The EBD021 model focuses on practical and efficient 4G LTE Cat 4 connectivity while maintaining low-profile embedded integration.

For applications operating in remote locations, transport systems, industrial control environments, or smart infrastructure projects, the Teltonika CALYX solution offers a reliable way to maintain mobile connectivity where Ethernet and Wi-Fi cannot consistently perform.

Why Choose the Teltonika EBD021 CALYX
The Teltonika EBD021 combines reliable LTE performance, Raspberry Pi compatibility, and embedded-friendly design into a single compact solution. Its combination of GPIO modem control, external antenna support, and integrated cellular connectivity makes it a strong choice for professional IoT and embedded networking deployments requiring stable mobile internet access.

Specifications:

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Specifications	
Product Code	EBD021
Mobile	
Mobile module	Calyx 4G / EBD021
	4G LTE-FDD (Cat 4) - 75Mbps DL, 50Mbps UL , LTE-TDD (Cat 4) - 65Mbps DL, 35Mbps UL , DC-HSPA+ - 42Mbps DL, 5.76Mbps UL , 3G - 384 kbps DL, 384 kbps UL, 2G - 236.8 kbps DL, 236.8 kbps UL, 2G GPRS - 85.6 kbps DL, 85.6 kbps UL
3GPP Release	Release 9
Mobile module	Calyx 5G / EBD050
	5G Sub-6Ghz SA/NSA 2.4/3.4Gbps DL (4x4 MIMO), 900/550 Mbps UL (2x2) , 4G LTE Cat 19 up to 1.6 Gbps DL/ 200 Mbps UL , 3G up to 42 DL/ 5.76 UL Mbps
3GPP Release	Release 16
Mobile module	Calyx 5G Red Cap / EBD070
	5G Sub-6Ghz SA 223 Mbps DL/123 Mbps UL , 4G LTE (Cat 4) up to 195 Mbps DL/105 Mbps UL
3GPP Release	Release 17
USB	

Data rate	USB 2.0 - Calyx 4G / EBD021 , Calyx 5G Red Cap / EBD070
	USB 3.0 - Calyx 5G / EBD050
40-pin GPIO header	
PWR_KEY	Modem turn on/off. Digital Input, 0 - 3.3 V logic level, active High, to activate use pulse (>=500 ms)
Modem wakeup	Wake up modem from a sleep mode.
	Digital Input, 0 - 3.3 V logic level, active High - Calyx 4G / EBD021
	Digital Input, 0 - 3.3 V logic level, active Low - Calyx 5G / EBD050 , Calyx 5G Red Cap / EBD070
Modem reset	Resets the modem. Digital Input, 0 - 3.3 V logic level, active High
Power	
USB type C	5 VDC
40-pin GPIO header	On a 40-pin header, 5 VDC and 3.3 VDC
Physical Interfaces	
Status LEDs	1 x Power, NET IND, NET STAT
SIM	1 x SIM slot (Nano SIM - 4FF), push-pull
Power	On a 40-pin header/USB power
USB	USB Type-C receptacle
Antennas	Calyx 4G / EBD021 , Calyx 5G Red Cap / EBD070
	2 x SMA for Mobile
Antennas	Calyx 5G / EBD050
	4 x SMA for Mobile
Physical Specification	
Weight	57 g
Mounting options	WIth included mounting kit
Dimensions (W x H x D)	Calyx 4G / EBD021 , Calyx 5G Red Cap / EBD070
	56 x 23.11 x 95.48 mm
Dimensions (W x H x D)	Calyx 5G / EBD050
	56 x 23.11 x 100.8 mm
Operating Environment	
Operating temperature	-40 degreesC to 75 degreesC
Regulatory & Type Approvals	
Regulatory	Calyx 4G / EBD021 , Calyx 5G / EBD050
	CE, UKCA, EAC, UCRF, RCM, CB, WEEE
Regulatory	Calyx 5G Red Cap / EBD070
	CE, UKCA, EAC, UCRF, FCC, ISED (IC), RCM, CB, WEEE
EMC Emissions & Immunity	

Standards	Calyx 4G / EBD021
	EN 55032:2015+ A11:2020 + A1:2020
	EN 55035:2017+A11:2020
	EN 61000-3-3:2013+A1:2019+A2:2021
	EN IEC 61000-3-2:2019+A1:2021+A2:2024
	EN 301 489-1 V2.2.3
	EN 301 489-17 V3.3.1
	EN 301 489-52 V1.2.1
Standards	Calyx 5G / EBD050
	EN 55032:2015+ A11:2020 + A1:2020
	EN 55035:2017+A11:2020
	EN 61000-3-3:2013+A1:2019+A2:2021
	EN IEC 61000-3-2:2019+A1:2021+A2:2024
	EN 301 489-1 V2.2.3
	EN 301 489-3 V2.3.2
	EN 301 489-17 V3.3.1
	EN 301 489-19 V2.2.1
	EN 301 489-52 V1.2.1
Standards	Calyx 5G Red Cap / EBD070
	EN 55032:2015+ A11:2020 + A1:2020
	EN 55035:2017+A11:2020
	EN 61000-3-3:2013+A1:2019+A2:2021
	EN IEC 61000-3-2:2019+A1:2021+A2:2024
	EN 301 489-1 V2.2.3
	EN 301 489-17 V3.3.1
	EN 301 489-19 V2.2.1
	EN 301 489-52 V1.2.1
	47 CFR Part 15, Subpart B
RF	
Standards	Calyx 4G / EBD021 , Calyx 5G / EBD050
	EN 301 908-1 V15.2.1
	EN 301 908-2 V13.1.1
	EN 301 908-13 V13.2.1
	EN 301 908-25 V15.1.1

Standards	Calyx 5G Red Cap / EBD070
	EN 301 908-1 V15.2.1
	EN 301 908-13 V13.2.1
	EN 301 908-25 V15.1.1
Safety	
Standards	CE: EN IEC 62311:2020
	RCM: AS/NZS 62368.1:2022
	CB: EN IEC 62368-1:2020+A11:2020

Product Information Online

For the latest product information, availability and purchasing details, please visit the product page:

Product page:
https://www.comx-computers.co.za/EBD021-Teltonika-EBD021-Calyx-4G-LTE-FDD-CAT-4-Embedded-Raspberry-Pi-hat-p-337714.php

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