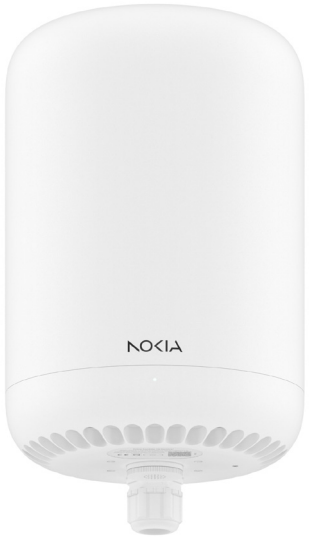
Nokia FastMile 5Gmm Receiver

5Gmm28-B

The Nokia FastMile 5Gmm Receiver (5Gmm28-B) is an outdoor device based on the Nokia 360 High Gain mmWave technology. This device is elegant, blending well in the environment, easy to deploy, can connect wirelessly to the mobile network and supports 4G/LTE and 5G FR1 (sub-6 GHz) and 5G FR2 (mmWave) bands. It can be easily mounted on a wall, corner of a wall, balcony or pole. The 5Gmm28-B implements innovative and groundbreaking technologies with eco-friendly design, offering industry leading 26 dBi high-gain FR2 antenna and 360° field of view (FoV). This enables the device to connect to a signal coming from any direction, making non-line of sight mmWave FWA possible.

The device is equipped with a very high gain FR2 antenna of up to 26 dBi gain with automatic antenna alignment, and omni antenna for FR1 and LTE, to improve the radio signal transmission and reception. The 5Gmm28d-B can be mounted flat on a wall, corner of a wall, pole or balcony. It does not require orienting.



The Nokia FastMile 5Gmm Receiver uses a mobile application to help the user select the right side of the home with the best radio reception. 360 high gain technology with intelligent algorithms scan the environment creating a fingerprint of the radio signals—direct or obstructed—and enable fast switch-over between signal sources to ensure the best possible connectivity even in non-line-of-sight (NLOS) conditions. Neither the precise location nor orientation of the receiver is a barrier to effective operation.

The receiver implements advanced 3GPP Rel 17 modem technology, extensive carrier aggregation between supported radio bands and several advanced radio features. The 5Gmm28-B is compatible with any residential gateway: paired with Nokia's in-home Wi-Fi solution, it ensures a seamless ultra-broadband experience in every corner of the home.

Features

- 3GPP Release 17 compliant
- 5G (FR1 + FR2) and 4G LTE WAN connection
- Qualcomm SDX75-1 modem chipset for FWA
- High gain FR2 antenna with up to 26 dBi gain and auto antenna alignment solution
- 800 MHz bandwidth support in FR2 in SA and NSA mode
- Uninterrupted 360° azimuthal view, eliminating the need for pointing
- -5° to 30° vertical field of view, without adjusting the bracket
- Support for multiple APNs
- GPS L1 and L5 support

Benefits

- Delivers 10 Gigabit home broadband services with 5G FR1 and 5G FR2
- Supports:
  - Bridge and routed mode configurations
  - Bluetooth 5.0

Technical specifications

Connectivity interfaces

- Physical:
  - 1 x 10 Gigabit Ethernet (GE) LAN port
  - Bluetooth 5.0
- Slot for nano SIM card

Network termination

- SIM-tray slot (4FF/nano)
- Embedded SIM (eSIM) support (PCB ready, optional feature)

5G

- 3GPP Release 17 - 5G NR
  - NSA: Option 3X and Option 3A
  - SA: Option 2
- Supported 5G radio bands:
  - FR2 (mmWave): n257, n258, n260, n261
  - FR1 (FDD): n2, n5, n7, n12, n25, n26, n66 and n71
  - FR1 (TDD): n38, n41, n48, n77, n78

4G LTE

- LTE UE category: DL 20 / UL 18
- Supported LTE radio bands:
  - FDD: B2, B4, B5, B7, B12, B13, B25, B26, B66 and B71
  - TDD: B38, B41, B42, B43 and B48 CBRS EUD

Radio capabilities

- 5G FR1+FR2: 1CC in FR1 and 800MHz in FR2
- Extensive EN-DC/NR CA
- 5G FR1 aggregate bandwidth: 200MHz (2CC) in NSA
- 5G FR1 aggregate bandwidth: 300MHz (3CC) in SA
- LTE UL 2CA support
- DL 4x4 MIMO
  - 5G NR: n2, n7, n25, n38, n41, n48, n66, n77, n78
  - LTE: B2, B4, B7, B25, B66, B38, B41, B42, B43, B48
- DL 2x2 MIMO for low bands
  - 5G NR: n5, n12, n26 and n71
  - LTE: B5, B12, B13, B26, B71
- LTE/NR modulation: 256 QAM (DL) / 256 QAM (UL)
- FR2 modulation: 256 QAM (DL) / 64 QAM (UL)
- Power class 1.5 at 5G n41
- Power class 2 at 5G n41, n77 and n78
- Power class 1 for FR2, up to 52 dBm EIRP (dependent on the band)
- Dynamic spectrum sharing (DSS)

Antenna capabilities

- Optimized antennas for discrete look and feel, and ease of installation
- Does not require pointing
- 360° horizontal field of view (FoV)
- Auto antenna alignment solution for FR2 bands

Security

- Adheres to strict Nokia Design for Security standards

Data forwarding

- Support for Multiple APNs
- Bridge and routed mode configuration support
- Ethernet PDU support
- Supports B2C and B2B data forwarding scenarios for residential and enterprise customers

Operations, administrations and maintenance (OAM)

- LED indicators for signal strength indication and device status
- TR-069, TR-369 and TR-181 with ACS access for remote device management
  - Firmware upgrades
  - Key performance indicator (KPI) management
  - Support for TR-143
- WebUI:
  - Management and configuration of device
- Guided installation with Nokia Wireless mobile app
- Integrated with FWA Controller supporting point-of-sales, service fulfilment and guided install and service assurance and optimization functions (*)

(*) optional

Physical

- Diameter: 172 mm (6.7 in)
- Height: 266 mm (10.5 in)
- Weight: 2200 g (4.8 lb)

Mounting options

- Flat on a wall, corner of a wall, pole and balcony mounting options
- Auxiliary mounting accessories including common bracket system for wall and balcony mount and mounting hoops for pole and balcony mount
- Nokia PoE injector included

Operating environment

- Stationary operation: complies with classes 4.1, 4.1E, and 4.2H.
- Operating temperature range: designed to function reliably in ambient temperatures (with sun exposure) from -40°C to 50°C.
- Vibration and shock resistance: meets Class 3M5 (T3.5) standards for durability.
- Ingress protection: rated IP66 for superior resistance to dust and water intrusion.

Power

- Max power consumption: 22W max
- Compatible design for Grounded and non-Grounded
- Nokia PoE 30W Class I for Grounded and Class II for non-Grounded

Certification

- FCC

About Nokia

At Nokia, we create technology that helps the world act together.

As a B2B technology innovation leader, we are pioneering networks that sense, think and act by leveraging our work across mobile, fixed and cloud networks. In addition, we create value with intellectual property and long-term research, led by the award-winning Nokia Bell Labs.

Service providers, enterprises and partners worldwide trust Nokia to deliver secure, reliable and sustainable networks today – and work with us to create the digital services and applications of the future.

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