Nokia FastMile 5G Gateway 2

The Nokia FastMile 5G Gateway 2 (5G18-01W-A, 5G19-01W-A, 5G19-02W-A and 5G19-12W-A) is designed to help operators capitalize on the growing 5G FWA market. The solution delivers an indoor device, built with multi-band omni-directional antenna, that is easy to deploy and connects wirelessly to the mobile network. With extensive carrier aggregation (CA) and dual connectivity (EN-DC) support, the device improves performance and reliability by using the best 4G and 5G signals available.

The plug-and-play solution is simple to install and uses Mobile App and a LED visual guide to help the subscriber identify the right location in the home to achieve the best performance. Compatibility with Nokia's in-home Wi-Fi solution ensures a seamless ultra- broadband experience in every corner of the home.

Key features

- Self-contained, full featured, 5G residential gateway
- 3GPP Release 15 compliant based on MediaTek T750 modem chipset solution for FWA
- 5G NR and 4G LTE WAN connections
- Multi-band omni-directional antenna up to 7.6 dBi gain
- Supports Sounding Reference Signal (SRS), Transmit Antenna Switching (TAS) switching technologies and High Power UE (HPUE) to enable excellent radio performance
- Wi-Fi 6 support with 2.4/5 GHz dual band 2+2 connectivity

Benefit

- Delivers Gigabit home broadband services with 5G new radio and 4G LTE
- Reduces radio network deployment costs with mobile application guided subscriber device self- installation for maximum received signal strength
- Extends 5G speeds throughout the home with Wi-Fi 6 and Nokia WiFi beacons
- Support for multiple APN and 5G network slicing
- Compact size and low power consumption

Technical specifications

- Integrates MediaTek T750 SoC based on M70 modem
- Multiband omni-directional antenna for 5G NR and 4G LTE with up to 7.6 dBi gain
- Integrated residential gateway with Corteca Device Software
- 1 GB/4 GB RAM/Flash
- Wi-Fi EasyMesh support interoperable with Nokia beacons

Connectivity interfaces

- Wi-Fi 2.4 GHz/5 GHz (2+2) dual band simultaneous operation (802.11 a/b/g/n/ac/ax RF, 20/40/80 MHz bandwidth)
- Physical
  - 5G18-01W-A & 5G19-01W-A:
    - 1 Gigabit Ethernet LAN port
  - 5G19-02W-A:
    - 2 Gigabit Ethernet LAN ports. One of the two is configurable as LAN/WAN port
  - 5G19-12W-A:
    - 2 Gigabit Ethernet LAN ports. One of the two is configurable as LAN/WAN port
    - 1 RJ-11 voice port (VoLTE or VoIP extension)

Hardware variants

- Target markets
  - 5G18-01W-A : LAT (excluding Brazil)
  - 5G19-01W-A, 5G19-02W-A & 5G19-12W-A: EMEA and Brazil

Network termination

- 3GPP Release 15 Compliant 4G LTE and 5G NR 1
- SIM slot (size: 4FF/nano)
- Embedded SIM (eSIM) support (PCB ready, optional feature). Developed under specific customer agreement

5G New Radio

- 3GPP Release 15 – 5G NR NSA: Option 3X, Option 3A, Option 3 and 5G NR SA: Option 2
- 5G18-01W-A supported 5G NR radio bands
  - Sub-6 GHz (FDD)
    - n2 (UL: 1850-1910 MHz; DL: 1930-1990 MHz)
    - n5 (UL: 824-849 MHz; DL: 869-894 MHz)
    - n7 (UL: 2500-2570 MHz; DL: 2620-2690 MHz)
    - n25 (UL: 1850-1915 MHz; DL: 1930-1995 MHz)
    - n28 (UL: 703-748 MHz; DL: 758-803 MHz)
    - n66 (UL: 1710-1780 MHz; DL: 2110-2200 MHz)
  - Sub-6 GHz (TDD)
    - n38 (2570-2620 MHz)
    - n41 (2496~2690MHz)
    - n78 (3300-3800 MHz)
  - 5G NR antenna gains
    - n78: 4.0-7.6 dBi
    - n7/n38: 3.0-4.5 dBi
    - n41: 3.5-5.5 dBi
    - n2/n25/n66: 3.0-4.5 dBi
    - n5/n28: 1.5-3.5 dBi
  - 5G NR UL highest order modulation: 256 QAM/256QAM
  - 5G NR MIMO:
    - 1T4R: n2/n25/n38/n41/n66/n78
    - 1T2R: n5/n28
  - Support for Transmit Antenna Switching (TAS):
    - 1T4R: n38/n41/n78
  - Support for Sounding Reference Signal (SRS) antenna switching:
    - 1T4R: n38/n41/n78
  - Support for HPUE (26 dBm, PC2) in 5G NR bands: n41, n78
  - Maximum 5G NR Sub-6 GHz aggregate bandwidth: DL max 200 MHz (2CC) in SA
  - Extensive EN-DC and Carrier Aggregation (CA) support

- 5G19-01W-A, 5G19-02W-A & 5G19-12W-A supported 5G NR radio bands:
  - Sub-6 GHz (FDD)
    - n1 (UL: 1920-1980 MHz; DL: 2110-2170 MHz)
    - n3 (UL: 1710-1785 MHz; DL: 1805-1880 MHz)
    - n7 (UL: 2500-2570 MHz; DL: 2620-2690 MHz)
    - n8 (UL: 880-915 MHz; DL: 925-960 MHz)
    - n20 (UL: 832-862 MHz; DL: 791-821 MHz)
    - n28 (UL: 703-748 MHz; DL: 758-803 MHz)
  - Sub-6 GHz (TDD)
    - n38 (2570-2620 MHz)
    - n40 (2300-2400 MHz)
    - n41 (2496-2690 MHz)
    - n77 (3300-4200 MHz)
    - n78 (3300-3800 MHz)
    - n38/n41/n77 and n78 for 5G19-01W-A and 5G19-02W-A or n40/n77 and n78 for 5G19-01W-A and 5G19-12W-A
  - 5G NR antenna gains
    - n77/n78: 4.0-7.6 dBi
    - n7/n38/n41: 3.0-4.5 dBi
    - n1/n3: 3.0-4.5 dBi
    - n8/n20/n28: 0.8-3.5 dBi
  - 5G NR DL/UL highest order modulation: 256 QAM/256QAM
  - 5G NR MIMO:
    - 1T4R: n1/n3/n7/n38/n77/n78
    - 1T2R: n8/n20/n28
    - 2T4R: n40/n41
  - Support for Transmit Antenna Switching (TAS):
    - 1T4R: n38/n41/n77/n78
  - Support for Sounding Reference Signal (SRS) :
    - 1T4R: n38/n41/n77/n78
  - Support for HPUE (26 dBm, PC2) in 5G NR bands: n41, n78
  - Maximum 5G NR Sub-6 GHz aggregate bandwidth: DL max 200 MHz (2CC) in SA
  - Extensive EN-DC and Carrier Aggregation (CA) support

LTE

- 5G18-01W-A supported LTE radio bands
  - FDD: B2/B25 (1900 MHz), B4/B66 (1700/2100 MHz), B5/B26 (800MHz), B7 (2600 MHz), B28 (700 MHz),
  - TDD: B38 (2600 MHz), B41 (2500 MHz), B42 (3500 MHz)
  - LTE antenna gains
    - B41: 3.5-5.5 dbi
    - B42: 4.5-7.6 dBi
    - B7/B38: 3.0-4.5 dBi
    - B2/B4/B25/B66: 3.0-4.5 dBi
    - B5/B26/B28: 1.5-3.5 dBi
  - LTE DL/UL highest order modulation: 256 QAM/256 QAM
  - LTE UE category DL/UL: 19/18
  - LTE MIMO
  - DL 2x2 MIMO (1T2R): B5/B26, B28
  - Support Transmit Antenna Switching (TAS): B42
  - Support for HPUE (26 dBm, PC 2) in LTE bands B41/B42
  - Support for LTE UL 2 CA
- 5G19-01W-A, 5G19-02W-A & 5G19-12W-A supported LTE radio bands
  - FDD: B1 (2100 MHz), B3 (1800 MHz), B7 (2600 MHz), B8 (900 MHz), B20 (800 MHz), B28 (700 MHz), B32 (1500 MHz)
  - TDD:
    - B38 (2600 MHz), B41(2500 MHz), B42 (3500 MHz) for 5G19-01W-A and 5G19-02W-A or
    - B40 (2300 MHz), B42 (3500 MHz) for 5G19-01W-A and 5G19-12W-A

- LTE antenna gains
  - B42: 4.5-7.6 dBi
  - B7: 3.0-4.5 dBi
  - B1/B3: 3.0-4.5 dBi
  - B32: 3.0-4.0 dBi
  - B8/B20/B28: 0.8-3.5 dBi
  - B40: 3.5-4.7 dbi
  - B41: 3.5-5.5 dbi
- LTE DL/UL highest order modulation: 256 QAM/256QAM
- LTE UE category DL/UL: 19/18
- LTE DL MIMO
  - B38/B41) or B40/B42)
  - DL 2x2 MIMO: B8, B20, B28, B32
  - Support Transmit Antenna Switching (TAS): B42
- Support for HPUE (26 dBm, PC 2) in LTE bands:
  - B42, B40 for 5G19-01W-A and 5G19-12W-A or
  - B41 for 5G19-01W-A and 5G19-02W-A
- Support for LTE UL 2 CA

Wi-Fi

- Dual band simultaneous operation
  - 2x2 MIMO 802.11 a/b/g/n/ac/ax RF, bandwidth
  - 2x2 MIMO 802.11 a/b/g/n/ac/ax RF, bandwidth 5 GHz (20/40/80 MHz) WLAN interface, with MU-MIMO
- 600 Mb/s PHY rate for 2.4 GHz band, and 1.2 Gb/s PHY rate for 5 GHz band
- UL/DL MU-MIMO over oFDMA
- Wi-Fi power savings mode of operation (Target Wake Time)
- The device supports up to 128 clients
- Band steering and seamless roaming (IEEE 802.11k and 802.11v)
- Intelligent channel selection optimization support for explicit beamforming
- Support for IEEE 802.11s, Nokia Wi-Fi EasyMesh, self-optimizing network
- Mesh topology interoperable with Nokia WiFi Beacons
- Supports ease of setup and user intuitive information via Nokia WiFi Mobile App

Security

- Security support against common security threats for networking equipment and DOS attacks
- ACL and firewall are built-in and auto-enabled
- WPA support including WPA-PSK (TKIP, AES) and WPA3

Operations, administration, and maintenance (OAM)

- One LED for 5G NR/4G LTE radio status view and signal strength indication
- TR-069 and TR-369 (USP) for remote device management
- TR-181 data model
- TR-143 support for device diagnostics
- Integrated with FastMile FWA Controller supporting Point-of-Sales, Service fullfilment and guided install and Service assurance and optimization functions
- WebGUI support for status view and configuration
- The intelligent self-organizing mesh system delivers a superior end-user experience, enhanced by the Nokia Corteca Home Controller and the intuitive Nokia WiFi Mobile App, which also simplifies device onboarding.

Buttons

- Power on/off
- Reset

Physical

- Height: 181 mm (8.1 in)
- Length: 150 mm (5.9 in)
- Thickness: 6 mm (2.4 in)
- Weight: 0.7 kg (1.5 lb)

Operating environment

- Powering: 12V DC power supply
- 5G18-01W-A, 5G19-01W-A, 5G19-02W-A and 5G19-12W-A:
  - IP20 compliant
- Indoor 0°C to +40°C (32°F to 104°F)

Powering

- Max power consumption: 16 W
- Operational up to +45°C with reduced performance

Certification

- 5G18-01W-A :
  - FCC certification
  - CB certification
- G19-01W-A, 5G19-02W-A & 5G19-12W-A:
  - CE certification
  - CB certification
- Wi-Fi Alliance (WFA)
  - Wi-Fi 6 certification

About Nokia

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

As a B2B technology innovation leader, we are pioneering the future where networks meet cloud to realize the full potential of digital in every industry.

Through networks that sense, think and act, we work with our customers and partners to create the digital services and applications of the future.

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