WiBAS G5 GigaConnect+

The WiBAS™ G5 GigaConnect+ radio unit

WiBAS™ G5 GigaConnect+ with low-profile antenna 30 cm

Compact PtMP Broadband Connectivity MU-MIMO Terminal

Overview

The WiBAS™ G5 GigaConnect+ terminal station is a new-generation compact MU-MIMO Point-to-MultiPoint (PtMP) radio offering the highest capacity, convenience, performance and power-saving features in the market. It stands out for its advanced networking features, extended coverage and leading PtMP radio technology in a variety of area-licensed bands. Moreover, it enables state-of-the-art IP connectivity in zero-footprint installations and at service locations requiring cost-effective and rapidly-implemented FWA networks. Zero-touch provisioning capabilities facilitate network deployment, while the improved modem technology allows higher channel bandwidth utilization and denser PtMP networks.

System Specifications

	24-26 GHz	26-28 GHz	29-31 GHz	37-39 GHz
Order Code	WG5-GC1P-24-26	WG5-GC1P-26-28	WG5-GC1P-29-31	WG5-GC1P-37-39
Operating Frequencies (Tx-Rx), GHz	24.25-26.50	26.50-28.50	29.10-31.30	37.00-40.00
TDD DL:UL Split Ratio	4:1		4:1, 3:2	4:1
Channel Bandwidth, MHz	100 / 200		75 / 150	100 / 200
RF Channel Arrangement	ECC Decision (18)06, FCC Part 30		FCC Part 101	FCC Part 30
User Access Method	Multi User MIMO (MU-MIMO)			
L1 Throughput, Net (DL/UL, per Terminal), Mbit/s	Up to 2414 / 396 (200 MHz)		Up to 1820 / 375 (150 MHz)	Up to 2414 / 396 (200 MHz)
Modulation DL/UL	Up to 1024-QAM / 256 QAM			
Tx Power, max. (4-QAM, TRP/EIRP), dBm	18.0 / 54.3 (300 mm antenna), 57.5 (500 mm antenna)	18.0 / 55.5 (300 mm antenna), 58.0 (500 mm antenna)	17.0 / 55.0 (300 mm antenna), 57.2 (500 mm antenna)	15.0 / 54.5 (300 mm antenna), 57.5 (500 mm antenna)
Polarization	Vertical & Horizontal			
Sensitivity (typ.) (4-QAM 1/2 DL), dBm	-82.0 (100 MHz) -79.0 (200 MHz)	-82.0 (100 MHz) -79.0 (200 MHz)	-84.0 (75 MHz) -81.0 (150 MHz)	-81.5 (100 MHz) -78.5 (200 MHz)
Parabolic Antennas	300 mm / 36.3 dBi, 500 mm / 39.5 dBi	300 mm / 37.5 dBi, 500 mm / 40.0 dBi	300 mm / 38.0 dBi, 500 mm / 40.2 dBi	300 mm / 39.5 dBi, 500 mm / 42.5 dBi
Power Supply, nominal	-48 V DC (delivered through PoE[1])			
Power Consumption, typ., W	35		33	35
Dimensions (H x W x D), mm	230 x 180 x 30			
Weight, kg	1.54 (excluding antenna & mounting kit)			
Protections Against Dust & Water	Class IP66, IP67 / IEC 60529			
Temperature				
Operation according to specs	-33 °C to +55 °C[2]			
Storage / Transportation	-40 °C to +70 °C			
Interfaces / Ports	1 x GbE (RJ-45) for traffic / inband NMS / PoE input (2.5 Gbit/s capable)			

[1] 37-39 GHz model supports IEEE 802.3bt (PoE++) power input.
[2] The unit is functional down to -50 °C but specifications are not guaranteed below -33 °C.

Features / Networking

- **Radio**
  - ETSI EN 302 326-2
  - 784/2019/EU
  - FCC 47 CFR Part 30, Upper Microwave Flexible Use Service
  - FCC 47 CFR Part 101, Local Multipoint Distribution Service

- **Ethernet**
  - IEEE 802.3-2018 (100 / 1000 / 2.5G Base-T)

- **Ethernet Standards & Functionality**
  - IEEE 802.1Q (VLAN-aware bridging)
  - Ethernet CoS (PCP)
  - VLAN point-to-point services
  - IEEE 802.1ad (Provider Bridges), Q-in-Q
  - Configurable EtherType
  - 1:1 VLAN translation and bundling on UNI trunk port for MEF EVPL and EVP-LAN services
  - 1:2 VLAN translation on UNI trunk port for FWA wholesale services
  - L2CP processing
  - MEF CE 2.0 port-based (EPL/EP-LAN) and VLAN-based (EVPL/EVP-LAN) services
  - Internal and external loopback on Gigabit Ethernet port
  - PPPoE Intermediate Agent
  - MTU size: up to 1900 Bytes

- **Ethernet QoS**
  - Ingress packet classification per Interface, VLAN ID, inner VLAN ID, L2 PCP, L3 DSCP, MPLS EXP or combinations
  - Classification actions supported: police, deny, remark
  - Remarking of L2 PCP
  - Ingress bandwidth profile (policing): Two-Rate Three-Color per UNI/EVC/CoS

- **Air Interface Scheduling**
  - Egress classification based on VLAN, inner VLAN CoS, PCP, DSCP, MPLS EXP criteria
  - Traffic shaping per TS (DL/UL)
  - Two-stage hierarchical scheduling of service flows established between Base Station sector and Terminals
  - Second level: Traffic prioritization within a service flow based on class of service
    - Eight (8) queues, packet scheduling strict-priority (SP)
    - Configurable queue size to cope with traffic burstiness (e.g. for TCP traffic)
  - First level: Scheduling between multiple service flows based on service class and shaping per service flow
    - Eight (8) priority queues (6 available for user traffic)
    - Three service classes:
      - Real-Time Variable Rate (RTVR) for guaranteed service
      - Non-Real-Time Variable Rate (NRTVR) for guaranteed service
      - Best-Effort (BE) for non-guaranteed service

- **Bridge Security**
  - MAC Security and Port Flooding
  - MAC Learning Enable/Disable (P2P VLAN Cross-Connect)
  - Storm Control and Split Horizon

- **Air Interface**
  - Multi User MIMO
  - Proprietary “closed” system architecture

- **Ethernet OAM**
  - IEEE 802.1ag (CFM)
  - IEEE 802.1ah (EFM)
  - ITU-T Y.1731 (Performance Monitoring)

- **Management**
  - Through uni|MS™ / Web interface / CLI:
    - NTP
    - SNMPv2c, SNMPv3
    - SYSLOG
    - TACACS+
    - RMON (RFC 2819)
    - Historical statistics
    - Telnet / SSH, HTTP / HTTPS, FTP / SFTP

- **EMC / EMI**
  - ETSI EN 301 489-1
  - ETSI EN 301 489-4
  - EN 55022
  - EN 55032
  - FCC 47 CFR Part 15, Subpart B, Unintentional Radiators

- **Health and Safety**
  - EN 62368-1
  - EN 60529
  - EN 50385
  - EN 62232
  - EN 60215
  - OET Bulletin 65

- **RoHS**
  - EN IEC 63000

- **Environmental**
  - ETSI EN 300 019-2-4, Class 4.1 / (Mechanical 4M5) (Operation)
  - ETSI EN 300 019-2-2, Class 2.3 (Transportation)
  - ETSI EN 300 019-2-1, Class 1.2 (Storage)

- **Reliability**
  - MTBF > 200 years

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