

# WiBAS<sup>™</sup> G5 GigaConnect



WiBAS™ G5 GigaConnect radio unit



WiBAS™ G5 GigaConnect with low-profile antenna 30 cm

## Compact PtMP Broadband Connectivity MU-MIMO Terminal

### Overview

Intracom Telecom being committed to the goal of fulfilling any requirement for ultra-broadband FWA of the highest quality in sub-urban and rural residential areas, further expanded its microwave portfolio with a the new generation of MU-MIMO Point-to-MultiPoint Terminal. WiBAS™ G5 GigaConnect offers the highest capacity, convenience, performance and power-saving features in the market from a compact terminal station radio. MU-MIMO facilitates high spectrum utilization in parallel with fast and reliable connections. It also offers advanced networking features, extended coverage and leading PtMP radio technology in the 27.50-29.50 GHz area-licensed bands, while enabling 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 makes the deployment of the network effortless, while the improved modem technology enables higher channel bandwidth utilization and denser PtMP networks. Finally, WiBAS™ G5 GigaConnect is fully interoperable with all available WiBAS™ Base Station radios providing 100% reuse of the existing network investment.

### System Specifications

	WiBAS™ G5 GigaConnect
L1 Throughput (net) per Terminal (Mbit/s) (Downlink / Uplink)	1000 <sup>(1)</sup> / 551 (112 MHz)
Modulation (adaptive)	Up to 1024-QAM
Power Supply	Power over Ethernet injector, with input: <ul style="list-style-type: none"> <li>• DC (-40.5 V to -57 V), or</li> <li>• AC (100 V to 255 V, 50 Hz to 60 Hz)</li> </ul>
Power Consumption, W	33 <sup>(2)</sup>
Dimensions (H x W x D), mm	230 x 180 x 30
Weight, kg	1.7 (excluding the antenna)
Protection Against Dust & Water	Class IP67 / IEC 60529
Temperature	
<i>Operation / Storage</i>	-33 °C to +55 °C
<i>Transportation</i>	-40 °C to +70 °C
Interfaces / Ports	
1 x GbE (RJ-45)	Traffic / Inband NMS / PoE input

<sup>(1)</sup> Value is restricted by the 1000 Mbps capacity of GbE port, although air capacity of GigaConnect can go as high as 1688 Mbps.

<sup>(2)</sup> Subject to change without notice.

# Operating Frequencies, Radio Performance & Antennas

WiBAS™ G5 GigaConnect	
Operating Frequencies, GHz (Tx / Rx)	28.50 - 29.50 / 27.50-28.50
RF Channel Arrangement	CEPT ERC Rec.T/R 13-02E
Channel Bandwidth, MHz	56 / 112 (FDD)
Tx Power, max., dBm (4-QAM)	18.0
Polarization	Vertical & Horizontal
Polarization Mode	Auto / Manual
Sensitivity (4-QAM 1/2 DL), dBm	-84.4 (56 MHz channel) • -81.4 (112 MHz channel)
Access Method	Multi User MIMO (MU-MIMO)
Antenna Type / Gain	Parabolic 300 mm / 37.5 dBi • Parabolic 500 mm / 40.0 dBi

## Features / Networking

### • Radio

- ETSI EN 302 326-1 V1.2.2 Annex E
- ETSI EN 302 326-2 V1.2.2

### • Ethernet

- IEEE 802.3-2008 (100 / 1000Base-T)

### • Ethernet Standards & Functionality

- IEEE 802.1Q (VLAN)
- IEEE 802.1p
- IEEE 802.1ad (Provider Bridges (Q-in-Q))
- All-to-one bundling on tunnel port for MEF EPL and EP-LAN services
- 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
- 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 HUB 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

- Dual Stream 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:
  - SNTP
  - SNMPv2c, SNMPv3
  - SYSLLOG
  - 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 55032
- EN 61000-3-2 +A1 +A2
- EN 61000-3-3

### • Health and Safety

- EN 60950-1 +A11 +A1 +A12 +A2
- EN 60950-22
- EN 50385
- EN 60215 +A1 +A2
- OET Bulletin 65

### • RoHS

- EN 50581

### • 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 > 50 years