

# All-in-One 5G Datasheet

## Overview

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**Figure 1:** All-in-One 5G front view

## Description

All-in-One 5G is an indoor device which integrates all the AGW, LTE, 5G NR, and LoRa in one enclosure. It supports PoE++ (802.3bt) power supply, which makes it easy to setup. The exciting Plug-&Play feature connects your home broadband directly without any technical background and start earning cryptocurrency by providing LTE cellular, 5G NR, and LoRa coverage.

## Features

- AGW, LTE, 5G NR, and LoRa all in one
- Low-power ARM platform
- 4G RAM+ 32G eMMC
- 2.5 GbE RJ45 Port with PoE++ (802.3bt)
- 24 dBm RF Tx power
- Built-in antennas
- 3GPP B48 LTE
- 3GPP n48 5G NR
- Band US915 LoRa
- Plug & Play
- ECC Security
- APP for O&M
- OTA Upgrade
- Table and wall mounting

## Specifications

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### Hardware

The hardware specification is categorized into five parts. It shows the different connectivity specifications, such as AGW, LTE, and LoRa. It also covers the environmental characteristics of the All-in-One 5G.

### Main Specifications

Feature	Specifications
Hardware Architecture	AGW
	LTE
	5G NR
	LoRa
ETH	RJ45 (2.5G)
USB	Type-C USB 3.0
Button	One pairing button
Power Supply	PoE++ (IEEE 802.3bt Standard)
Power Consumption	M320:55W (Max)
Antenna	LTE: Internal Antenna
	5G NR: Internal Antenna
	LoRa: Internal Antenna (Supporting switch to external antenna)
	GPS: Internal Antenna (Supporting switch to external antenna)
LED	Tricolor LED (Top side)
Ingress Protection	IP30
Enclosure Material	Plastics
Weight	4.2 kg
Dimension	300 mm x 311.5 mm x 79 mm
Operating Temperature	-5° C to 45° C
Installation Method	Table or Wall Mounting

## AGW Specifications

Feature	Specifications
CPU	Quad Core Cortex-A72 (ARM v8)
DDR	4 GB LPDDR4
eMMC	32 GB
Bluetooth	Bluetooth 5.0, BLE

## LTE Specifications

Feature	Specifications
LTE Mode	TDD
Frequency Bands	Band 48 (3550 MHz to 3700 MHz)
Channel Bandwidth	5/10/15/20 MHz
Max TX Power	24 dBm
Receiver Sensitivity	-100 dBm
Synchronization	GPS
MIMO	2x2 MIMO
Antenna	Built-in 2-port Omni Antenna
Antenna Gain	5 ± 1 dBi

## 5G NR Specifications

Feature	Specifications
LTE Mode	TDD
Frequency Bands	n48 (3550 MHz to 3700 MHz)
Channel Bandwidth	5/10/15/20/40 MHz
Max TX Power	24 dBm
Receiver Sensitivity	-100 dBm
Synchronization	GPS
MIMO	2x2 MIMO
Antenna	Built-in 2-port Omni Antenna
Antenna Gain	5 ± 1 dBi

## LoRa Specifications

Feature	Specifications
Mode	LoRa
Operating Frequency	US915 (902 MHz~928 MHz)
Channel Bandwidth	125/500 kHz
Mac TX Power	27 dBm
Receiver Sensitivity	-139 dBm (SF12)
Antenna	Built-in Omni Antenna
Antenna Gain	1.5 ± 0.5 dBi

## Environmental Characteristics

Feature	Specifications
Operating Temperature	23° F to 113° F / -5° C to 45° C
Storage Temperature	14° F to 122° F / -10° C to 50° C
Humidity	5% to 95% RH
Atmospheric Pressure	70 kPa to 106 kPa

## Software

The following introduces the software specifications of the All-in-One 5G:

### AGW

- 3GPP R12 for LTE and 3GPP R16 for 5G NR
- Support LTE Core: MME, SGW, PGW, HSS-lite
- Support 5G Core: AMF, SMF, UPF, UDM-lite
- Support LTE and 5G NR simultaneously
- Extend to support 7 LTE or 5G NR radios
- User Plane throughput > 1 Gbps
- Connected users > 600
- OTA software upgrade

### LTE

- 3GPP R12 compliant
- Peak rate: Up to DL 110 Mbps and UL 14 Mbps with 20 MHz bandwidth
- Supports 32 concurrent users
- 2x2 MIMO, single carrier
- Plug-and-play with Self-Organizing Network (SON) capabilities
- Supports TR-069 network management interface
- OTA software upgrade

### 5G NR

- 3GPP R16 compliant
- Peak rate: Up to DL 300 Mbps and UL 50 Mbps with 40 MHz bandwidth
- Supports 64 concurrent users
- 2x2 MIMO, single carrier
- Plug-and-play with Self-Organizing Network (SON) capabilities
- Supports TR-069 network management interface
- OTA software upgrade

### LoRa

- Supports Class A & C
- Supports LoRa package forward
- Supports country code setup
- Supports Tx power setup

- Supports data logger
- Supports statistic
- Supports location setup
- Supports server address & port setup

## Network

- Supports LTE APN setup
- Supports uplink backup
- Supports 802.1q
- Supports DHCP Server/Client
- Supports router module NAT
- Supports firewall

## Management

- Supports WEB management
- Supports SSH2
- Supports firmware update
- Supports NTP
- Supports configuring the LoRa Packet Forwarder
- Supports Build-in LoRa Server
- Supports OpenVPN, Ping Watch Dog
- Supports MQTT Bridge

## Certification

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