

# Mantis 5G Industrial IoT Gateway

Introducing the Mantis 5G-NR WiFi and LoRa Gateway from Mantiswave Networks Private Limited, an cutting-edge solution designed to revolutionize wireless communication in industrial settings. This advanced gateway seamlessly integrates 5G New Radio (NR) with WiFi, and LoRa technologies, offering unparalleled connectivity and performance for a wide range of industrial applications. Accessed and managed through the Mantis Dashboard, this gateway provides a comprehensive platform for industrial IoT, surveillance, and edge video processing.

## Key Features

### Seamless Integration:

Combines 5G-NR with WiFi, and LoRa technologies for robust connectivity.

### Mantis Dashboard:

The Mantis Dashboard offers an intuitive interface for managing and monitoring the gateway. Users can easily configure settings, monitor performance, and analyze data, all from a centralized platform.

### Industrial IoT Applications:

Perfect for connecting and managing WiFi and LoRa sensor nodes in an industry floor, facilitating efficient data capture and analysis.

### High-Definition Surveillance:

Supports high-definition cameras for surveillance and video processing at the edge, ensuring real-time monitoring, enhanced security and enables AI integration in the manufacturing floor.

### 5G CPE:

It can convert 4G/5G cellular network signals into Wi-Fi signals, so even if there is no broadband available, you can enjoy a high-speed WiFi network. Can connect up to 5 devices over WiFi.



## Use Cases

### Industrial IoT Applications

- ▶ Connecting and Managing Sensor Nodes
- ▶ Mantis Dashboard Management
- ▶ Data Analysis and Optimization

### Surveillance and Edge Video Processing

- ▶ High-Definition Camera Integration
- ▶ Real-Time Edge Video Processing
- ▶ Surveillance Management via Mantis Dashboard



## Mantis Industrial IoT Gateway Specifications

Maximum Coverage	500 meters for LoRa, 10-20 meters for WiFi
Supported 5G-NR SA Bands	n1, n2, n3, n5, n7, n8, n12, n20, n25, n28, n38, n40, n41, n48, n66, n71, n77, n78, n79
Number of sensors supported	up to 512
Supported Sensor Technology	LoRA (868 MHz)-based Sensors
Camera Resolution	up to 4K
Antenna Configuration	SISO / 2x2 MIMO
5G-NR Datarate	DL 2.1 Gbps, UL 900 Mbps
Power supply	5 V 3 A DC
Operating temp	-10° C to 55°C
Dashboard	Access to all features of the Mantiswave Dashboard.
Maximum Coverage	500 meters
5G LAB Manual	5G Lab manual to conduct LAB experiments
Power Consumption	15 Watts
Weight	500 Grams
Dimension	150 x 120 x 80 mm

## List of LAB Experiments

- ▶ 5G-NR IoT Gateway Deployment and Management using Mantis dashboard
- ▶ LoRa-based Sensor data analysis using Mantis dashboard
- ▶ WiFi AP configuration and settings using Mantis Dashboard.
- ▶ Camera testing and Video streaming using Mantis Dashboard.
- ▶ Setting of Thingspeak/Firebase cloud and data transmission.\*

\*Mantiswave will do setup on demo accounts of Thingspeak/Firebase cloud. Customer need to take their own subscription of the cloud platform (Demo accounts are free of cost and support limited data handling and analysis capability).

## Other Testbeds available with us



**5G Device-To-Device (D2D)  
Communication Testbed**



**5G V2V, V2X Communication  
Testbed**



**Communication Over Sub-THz  
(172-180 GHz) Frequency Testbed**

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