Product Specifications

Model: TLG7X21M-OX-ECx

Ver.1.4

LoRa 16CH Outdoor Gateway

1. Description

TLG7X21M is a high performance **LoRaWAN™** gateway designed for outdoor application. **LoRaWAN™** is a Low Power Wide Area Network (LPWAN), and target to machine-to-machine (M2M) and Internet of Things (IoT) applications.

TLG7X21M is defined an industrial base station and perform robust mechanical and IP67 waterproof design to provide the perfect solution to complex environments. The gateway integrates an industrial level CPU ARM Cortex-A8 core and two Semtech SX1301 to communicate with the LoRa nodes in the network. The power supply is by POE (Power over Ethernet). Channel access with Listen-before-talk (LBT). TLG7X21M provide LTE 4G and Ethernet to connect the cloud server.

LoRaWAN™ network uses ISM band and Kiwitec has already offered different bands for different regions, i.e. 470MHz, 868 MHz and 915MHz. It's the cost-effective solution for long range, and low power systems.

2. Features

- LoRa packet forwarder

- Long range transmission, could be almost 10Km (depends on the interference in the air)

- High sensitivity: -137dBm

- Port 10/100Mbps Fast Ethernet

- TCP Server/Client, UDP.

- MQTT protocol

- Web GUI for configuration and web management

- Friendly FW upgrade through Web GUI

- JavaScript programs plug-in by customers for special applications (customization)

- Built-in Node-RED application development environment

- Built-in splitter in system, and support POE (Power of Ethernet)

3. Application

- Smart city: smart campus, smart meter, smart parking and smart traffic monitoring.
- Smart agriculture and animal husbandry
- Smart Industry: smart warehouse, smart transportation
- Smart sensor applications

4. Product Specifications

4.1. General specifications

LoRa Chip	Semtech SX1301
SoC	TI AM3352 (Cortex A8)
Operating Voltage	30 Watt POE (Power over Ethernet)
Operating System	Linux v4.1.6
Flash	256 MB (NAND Type)
Memory	512 MB (DDRIII)
LoRa Interface	
Modulation	LoRa
Transceiver	Semtech SX1301
Frequency Range	902~928MHz for USA 920~928MHz for JPN 920~925MHz for TWN 863~870MHz for EU 470~490MHz for China
Data rate	0.292~21.875Kbps
Sensitivity	-137dBm
LTE module	
LTE Module	Quectel EC25 serials for EU/USA/JPN/TWN Quectel EC20-CE for China
System	
LoRa Antenna	3dBi (for JPN, USA, EU) 5dBi (for China) 8dBi (for Taiwan, Singapore)

Interface	N-Jack connector x 6 SIM card slot x 1 POE connector x 1
Dimension	296X220X58 (mm) without the connector
Operation Temp.	-40~70° C
Storage Temp.	-40~80° C
Installation	Steel pipe / wall-mount
Compliance of Certificate	FCC/TELEC/VCCI/NCC/BSMI/SDPPI

4.2. Mechanical Drawing