

No.ICFOSS/32/2019-TC4(IT)-Part(1)

20/01/2025

QUOTATION NOTICE

Competitive quotations are invited from qualified firms/agencies for Outdoor LoRaWAN Gateway Mesh with Sub-GHz Backhaul. Specification & technical details attached below:

LoRaWAN Mesh Kit includes following items

Sl.No	Description	Quantity
1	Border Gateway	1
2	Relay Gateway	5
3	External Antenna	6

Characteristics (for sub-GHz relay)

Devices per network	Typically 1000 sensors, depending on topology and messages/day
Distance between gateways	Between 2 and 10 km, depending on locations
Radio channels	8 RX + 1 TX
Relay configuration	Selectable SF, BW and TX power Channel hopping
Maximum hops	8, recommended 3-4
Network monitoring	Heartbeat messages Info page on LNS
Network flooding management	Per-gateway message ID cache Per-gateway max hop count
Network security	Standard LoRaWAN security for messages to/from end-devices Shared key for MIC checking for messages between gateways
Gateway power	Power adapter Battery Plus compatible (battery+solar)
Gateway installation	Pole mount

Border Gateway: RAK7289CV2 (with LTE)

- **Multi-Backhaul Support:** Ethernet, Wi-Fi, and Cellular (RAK7289CV2)
- **Power Options:** Compatible with RAK Battery Plus off-grid system
- **Enclosure Design:** IP67-rated enclosure with internal LTE, Wi-Fi, and GPS antennas
- **Pre-Flashed Software:** ChirpStack Gateway OS with Gateway Mesh protocol
- **Connectivity:** LoRa Sub-GHz and LTE

Relay Gateway: RAK7289V2 (External Antenna)

- **Enclosure:** IP67/NEMA-6 industrial-grade enclosure with cable glands
- **8-Channel LoRaWAN Support:** Sub-GHz LoRa concentrator (RAK5146)
- **Multi-Backhaul Support:** Wi-Fi, Ethernet (RAK7289V2)
- **External Antennas:** External LoRa antenna; internal for Wi-Fi, GPS
- **Power Options:** DC 12V, PoE (802.3af) with Surge Protection
- **Dying Gasp:** Power failure protection with advanced "dying gasp" function

External Antenna

- **Gain:** 8.0 dBi
- **Material:** Fiber Glass
- **Connector Type:** N-Type Male
- **2pcs Mounting Brackets**

Rate should be quoted in gross amount including GST. Sealed quotation shall be reached this office on or before 4pm on 27/01/2025 to the undersigned marked properly on the cover **“Quotation for Outdoor LoRaWAN Gateway Mesh with Sub-GHz Backhaul.”**

Quotation will be opened on 27/01/2025 at 4.30pm



Bijumon

Bijumon Joseph
Secretary & Registrar
ICFOSS