



INCUE Cellular Gateway

General Description

The INCUE Cellular Gateway features a powerful wireless transceiver with up to 1 Watt transmission strength, an amplified receiver, and 4G LTE CAT-M1/NB2 cellular technology to backhaul INCUE Wireless Sensor data. The INCUE cellular Gateway can send and receive data communications with INCUE Sensors at 1,000+ feet through 10+ walls in commercial building environments.

You only need a power source and the INCUE Platform to monitor virtually any environment and equipment using INCUE's industry-leading wireless devices. The INCUE Cellular Gateway communicates with INCUE Sensors and the INCUE platform to deliver data and send alerts about various ICRA containment or critical area conditions.

The INCUE cellular Gateway is ideal for applications without a wired Internet connection or with restricted network access by IT. However, it also comes with an RJ-45 Ethernet jack for local device configuration, diagnostics, and backup Internet connection if allowed by IT.

Example Applications

- Facility Humidity/Temperature Monitoring
- Infection Control Risk Assessment (ICRA)
- Healthcare Construction & Remediation
- Critical Area Monitoring
- Catheterization Labs
- Endoscopy Unit
- Operating Rooms
- Isolation Rooms
- Sterile Processing Department
- Supply Rooms
- Lab Monitoring
- Other Critical Area Monitoring

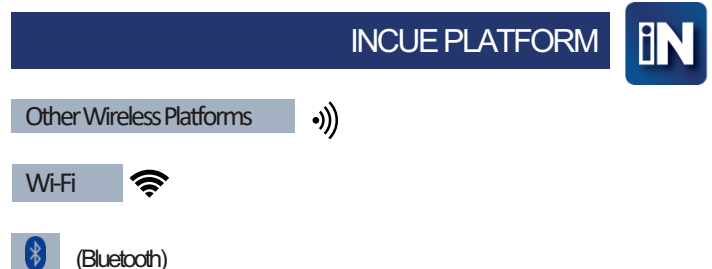
INCUE Cellular Gateway Features

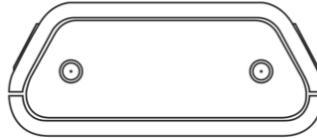
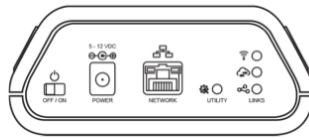
- 4G LTE CAT-M1/NB2 cellular technology
- Wireless range of 1,000+ feet through 10+ walls¹
- Frequency-Hopping Spread Spectrum (FHSS)
- Best-in-class interference immunity
- Encrypt-RF® Security (256-bit Diffie-Hellman Key Exchange + AES-128 CBC for sensor data messages)
- 32,000 sensor message memory²
- Over-the-air (OTA) updates (future-proof)
- True plug and play, no hassles for Internet configuration setup
- No PC required for operation
- Local status LEDs with transmission and online status indicators
- AC power supply
- External magnetic utility switch
- RJ-45 with 10/100BASE-TX Ethernet jack for configuration and server connectivity

1. Actual range may vary depending on the environment.

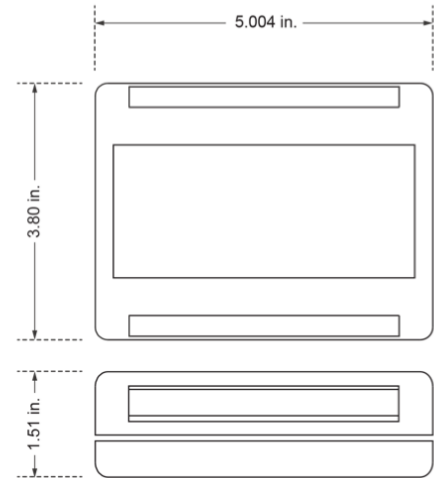
2. Total messages in memory varies with sensor type. Additional information available at www.INCUE.app/Support

Wireless Range Comparison





Radio
(INCUE) Cellular



INCUE Cellular Gateway Specifications

Models

MNG2-(Frequency)-CME-CCE -(OPTIONS)

Cellular

Cellular Technology	LTE CAT-M1 / NB2 module for global use in bands: 1,2,3,4,5,8, 12, 13, 18, 19,20,25,26,27,28,66, 71,85
SIM Card Compatibility	Mini-SIM (3FF) 15 mm x 12 mm x 0.76 mm
Cellular Antenna Type	Connector: SMA / Gain: 4.0 dBi
GNSS Antenna Type	Internal Mount Active (28db) Ceramic Patch
GNSS Satellites Supported	GPS, GLONASS, BeiDou, Galileo, and QZSS

Ethernet

Hardware	IEEE 802.3 10/100 BASE-TX compatible controller
Operation	Full- and Half-Duplex
Cross-over Correction	Automatic MDI / MDI-X
Protocols Supported	DHCP, DNS, UDP, TCP, SNTP, MSVR, Proprietary

Power

Input Power	5.0 VDC @ 1 A
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Mechanical

Power Connector	2.1 x 5.5 mm
Ethernet Connector	RJ-45
LEDs	Internet Connectivity, Gateway Services, INCUE Network Status

Enclosure

Material	ABS
Dimensions	5.004 X 3.8 X 1.51 in.
Weight	7 ounces

Environmental

Operating Temperature	+5 to +45° C (41 to 113° F)
Storage Temperature	-20 to +60° C (-4 to 140° F)

INCUE Wireless

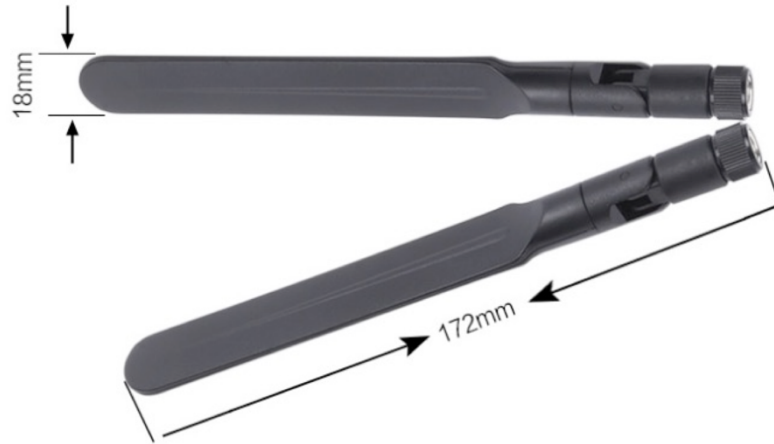
Transmit Power (EIRP)	+30dBm or 1W
Antenna Type	Connector: RP-SMA / Gain: 3.0 dBi (Antenna EIRP: 32.6dBm or 1.8W rating)
Wireless Range	1,000+ ft. non-line-of-sight ¹
Security	Encrypt-RF® (256-bit Diffie-Hellman key exchange and AES-128 CBC)
Device Memory	Up to 32,000 sensor messages (Sensor messages will be stored in the event of an Internet outage and transferred when the connection is restored.)

Certifications



Safety: IEC 62368-1
EMC: FCC 47 CFR Part 15, subpart B and ICES - 001 Issue 6;
RF: Includes model FCC ID: ZTL-G2XL1 / IC: 9794A-G2XL1 and
FCC ID: XMR202007BG95M6 / IC:10224A-2020BG95M6

¹ Actual range may vary depending on the installation environment.



Cellular Antenna (Extended Details)

Frequency Range	698-960/ 1710-2700(MHz)
Gain	5 dBi
VSWR	2.5 Max
Polarization	Vertical
Impedance	50 (Ω)
Connector Type	SMA male
Antenna Length	172 mm/ 6.77 inch
Type	Omni-directional, Multi-band antenna



Antenna (Extended Details)

Frequency Range	902-946 (MHz)
Gain	3 dBi
VSWR	1.8 Max
Polarization	Vertical
Impedance	50 (Ω)
Connector Type	RP- SMA Male
Antenna Length	210 (mm)/ 8.26 inch
Type	Omni-directional dipole antenna

Commercial-Grade Devices

INCUE Cellular Gateways are designed for applications in ordinary environments (normal room temperature, humidity, and atmospheric pressure). Do not use the gateways under the following conditions as these factors can deteriorate the product characteristics and cause failures and burnout:

- Corrosive or deoxidizing gas, e.g., chlorine gas, hydrogen sulfide gas, ammonia gas, sulfuric acid gas, and nitric oxide
- Volatile or flammable gas
- Dusty conditions
- Extremely low or high pressures
- Wet or excessively humid locations
- Places where saltwater, oils, chemical liquids, or organic solvents are routinely present
- Applications/locations prone to excessive or strong vibration
- Other sites where similar hazardous conditions exist

Use these products within the INCUE-specified temperature range. Higher temperatures could deteriorate both the product and its functionality.