

# Popular Standards for IoT/M2M Connectivity

## At-A-Glance



Datasheet

The right connectivity standard is one of the first and most important choices that enterprises and device manufacturers must make. Below are some of the current most popular standards that companies are considering for new IoT and M2M deployments.

### Widely Available

#### 3G & 4G LTE

High speed cellular networks like 3G and 4G LTE are readily available in most locations. Popular standards where speed and performance are most important, 4G LTE in particular offers fast upload and download of data, reliable signal strength and low latency – bringing the benefit of highspeed internet to a variety of use cases.

**Good for:** telematics, streaming, payment processing, remote monitoring, device roaming

**Limitations:** performance comes at the sacrifice of device battery life

### Popular Emerging Standards

#### LTE-M / Cat-M

CAT-M is a low power wide area technology build to support the long lifespan of many IoT devices. Battery life of up to 10 years is possible for many use cases by allowing the device to sleep when not in use, making it especially useful when only intermittent data transfer is required. As CAT-M uses existing LTE base stations device roaming is no problem, while bandwidth optimizations improve in-building and rural coverage.

**Good for:** wearables, smart meters, agricultural monitoring, logistics, asset tracking

**Limitations:** LTE-M networks are not available in all regions, not appropriate for high data rate use cases like streaming

#### NB-IoT

Designed for the massive increase in sensory density expected by the IoT, NB-IoT offers similar advantages to CAT-M in battery life and coverage. Improved network efficiency means that a massive number of connections can be supported using only a portion of the available spectrum. NB-IoT modules are designed to be simpler than traditional cellular modules which simplifies device design, development, deployment and drives down cost.

**Good for:** massive networks of sensors, environment monitoring, many Cat-M use cases where device will be static

**Limitations:** NB-IoT network roll outs require new infrastructure, cannot transfer large files to or from device, ability to move device seamlessly is limited

### Coming 2020

#### 5G

The 5G era is set to come in 2020, as networks begin to be rolled out. Faster, low-latency, high-bandwidth 5G networks will connect anything, anywhere, with improved performance, efficiency, and cost. 5G is expected to be a game changer for IoT by enabling data to be stored and processed closer to where it's created, and where insight-driven actions are needed.

**Good for:** virtual and augmented reality, autonomous vehicles, smart cities, manufacturing automation

**Limitations:** network infrastructure is still in development

Providing access to 600+ networks globally and years of expertise in successful M2M/IoT deployments, Pelion Connectivity Management can guide you in making the right choice for your use case. Visit [www.arm.com/pelion](http://www.arm.com/pelion) | [PelionCM@arm.com](mailto:PelionCM@arm.com).