



Enabling Industrial IoT

# ZETA-NxP



**Connecting Industrial Equipment to the Cellular Network**



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FUTURE  
PROOFING?

OPPORTUNITY

CONNECTIVITY?

RISK  
MITIGATION

#### WISH LIST

- \* PERFORMANCE
- \* REDUCE COSTS
- \* EFFICIENCY
- \* TIME TO MARKET

RELIABILITY?

POWER  
CONSIDERATIONS?

VALUE FOR  
MONEY?

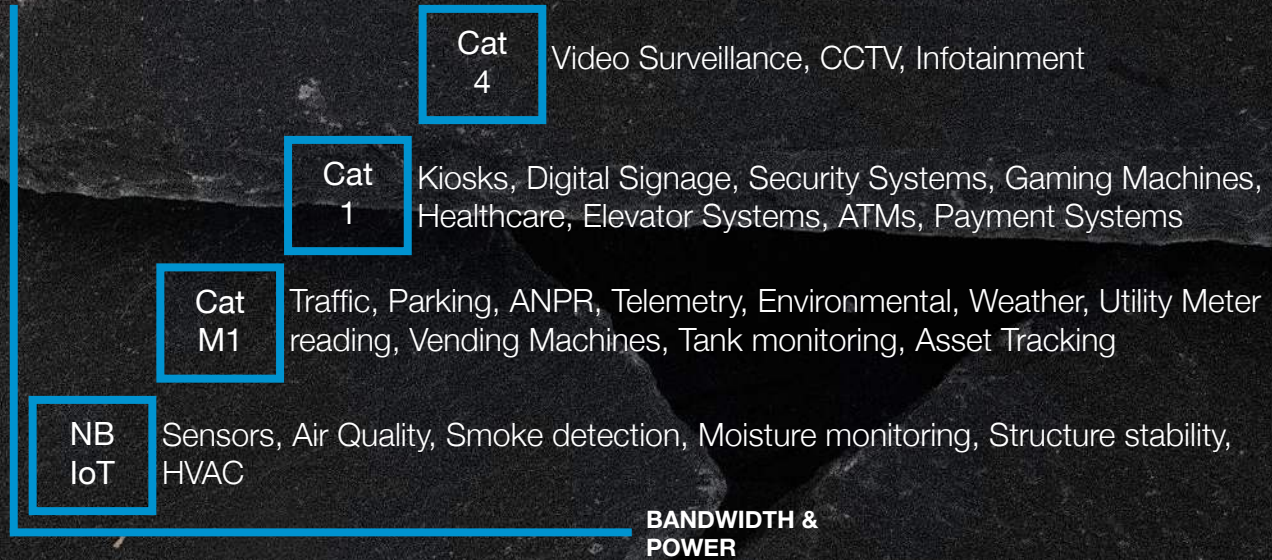
STAYING AHEAD  
OF COMPETITORS



# The Industrial IoT Landscape

Guidance Chart for matching  
modem requirements to  
applications

**COST &  
COMPLEXITY**



The nature of the industrial IoT landscape means there is no “one size fits all” modem. The cellular infrastructure developed for consumer usage is now tailoring itself with the IoT world. Within the LTE standard, new categories have emerged, with each category addressing different application needs. The categories supported by Siretta’s ZETA modems will be:

- \* NB-IoT (ULTRA LOW: Power & bandwidth)
- \* Cat M (ULTRA LOW: Power, bandwidth & latency)
- \* Cat 1 (LOW: Power, bandwidth & latency)
- \* Cat 4 (MEDIUM: Power, bandwidth & latency)

Cat 1, Cat M and NB IoT modems suit industrial IoT applications where transmission is infrequent and power requirements are low.

Specifications	NB IoT (NB1)	Cat M	Cat 1	Cat 4
Total bandwidth required	180 KHz	1.4 MHz	20 MHz	20 MHz
Download peak rate	26 kbps	300 kbps	10 Mbps	150 Mbps
Upload peak rate	66 kbps	375 kbps	5 Mbps	50 Mbps
Power demand	Ultra low	Ultra low	Low	High
Duplex Mode	Half duplex	Full duplex or half duplex	Full duplex	Full duplex
Latency	1.6S - 10S	10ms - 15ms	50ms - 100ms	100ms - 500ms
Antenna Diversity	1 (SISO)	1 (SISO)	2 (MIMO)	2 (MIMO)



# ZETA Cat M & NB IoT Modems

**ZETA-NLP-LTEM**  
LTE Cat M1 & LTE Cat NB IoT Modem

**Ultra Low Power Applications**



**LTE Cat M  
& LTE NB IoT**

**A revolution in low power 4G/LTE communication**

**Designed for Industrial M2M and IoT Applications.**

## **ZETA-NLP-LTEM KEY FEATURES:**

- **COVERAGE:** LTE Cat-M1 and LTE Cat-NB1 modem with 2G/GPRS fallback
- **POWER:** Intelligent power saving design
- **POLLING:** Ideal for low data rate infrequent transmissions
- **INTERFACES:** RS232 and High-Speed USB interfaces
- **LEGACY EQUIPMENT:** Connect to existing equipment for wireless connectivity
- **REPLACEMENT:** 2G/GPRS fallback means users can replace existing 2G/GPRS modems
- **FOOTPRINT:** Same standard ZETA series footprint, making replacement easier

## **ZETA-NLP-LTEM: POWER – Ideal for low power applications**

- Can be set to “idle state” for the majority of the time, only using standard power when sending or receiving data
- Extremely low power consumption in “idle state”

<b>Mode of Operation</b>	<b>7V</b>	<b>12V</b>	<b>42V</b>
Low Power mode enabled registered on network in idle state	1.3 mA	715 uA	485 uA
Low power mode enabled registered on network with socket connected in idle state	1.42 mA	780 uA	495 uA
Normal power mode with registered IP address in idle state	15.9 mA	9.5 mA	5.56 mA
Normal power mode with IP socket connected and transmitting data	126.7 mA	81.9 mA	42.4 mA
Normal power mode with active data call in progress	205.5 mA	128.2 mA	67.4 mA

## **ZETA-NLP-LTEM - DATA**

LTE Category M1 Uplink up to 375 kbps Downlink up to 300 kbps

LTE Category NB1 Uplink up to 66 kbps Downlink up to 26 kbps

EGPRS Uplink up to 236 kbps Downlink up to 296kbps



# ZETA Cat 1 & Cat 4 Modems

## ZETA-NxP-LTE1 (EU) LTE Cat 1 Modem

Low Power  
Applications



LTE Cat 1

### ZETA-NxP-LTE1 KEY FEATURES:

- **COVERAGE:** LTE Cat 1 medium speed 4G with 3G/2G fallback
- **POLLING:** Ideal for low data rate infrequent transmissions
- **INTERFACES:** RS232 and High-Speed USB interfaces
- **DATA:** Uplink up to 5Mbps, Downlink up to 10Mbps
- **LEGACY EQUIPMENT:** Connect to existing equipment for wireless connectivity
- **REPLACEMENT:** 3G/UMTS & 2G/GPRS Modems
- **OPTIONAL MODELS:** Global positioning covering GPS, GLONASS, Beidou & Galileo

## ZETA-NxP-LTE4 (EU) LTE Cat 4 Modem

For high bandwidth  
Applications



LTE Cat 4

### ZETA-NxP-LTE4 KEY FEATURES:

- **COVERAGE:** LTE Cat 4 high speed 4G with 3G/2G fallback
- **POLLING:** Ideal for high data rate, low latency, high bandwidth transmissions
- **INTERFACES:** RS232 and High-Speed USB interfaces
- **DATA:** Uplink up to 50Mbps, Downlink up to 150Mbps
- **LEGACY EQUIPMENT:** Connect to existing equipment for wireless connectivity
- **UPGRADE:** For 3G/UMTS & 2G/GPRS Modems
- **FOOTPRINT:** Same standard ZETA series footprint, making replacement easier
- **OPTIONAL MODELS:** Global positioning covering GPS, GLONASS, Beidou & Galileo



# ZETA Modem Selection

## STANDARD FEATURES

- \* Serial Communications: RS232 & high speed USB
- \* PSU: Wide range and robust PSU
- \* Operational Environment: Extended temperature range
- \* Software: IP Stack
- \* Software: AT Interface
- \* Enclosure: Standard ZETA series outer box dimensions

## CATEGORY SELECTION

- \* NB IoT (ULTRA LOW: Power and bandwidth)
- \* Cat M (ULTRA LOW: Power, bandwidth and latency)
- \* Cat 1 (LOW: Power, bandwidth and latency)
- \* Cat 4 (MEDIUM: Power, bandwidth and latency)

## EXTRA FEATURES

A selection of modems within the range have extra features to cover requirements for general purpose inputs and outputs and global positioning.

### GENERAL PURPOSE I/O CONNECTOR

- \* 3 x general purpose inputs
- \* 2 x general purpose outputs
- \* 1 x ADC
- \* RS232 Debug

### GLOBAL NAVIGATION SATELLITE SYSTEM

- \* GPS
- \* GLONASS
- \* BEIDOU
- \* GALILEO

## ZETA ACCESSORIES

ZETA DIN Rail Adapter  
ZETA Starter Kits





# ZETA Solutions

**Siretta**  
Enabling Industrial IoT

**Siretta IoT Products**  
A diverse range of modems, routers, antennas, cables and adapters enabling a variety of industrial solutions

**Oscar 42**  
Wall mount LTE/4G antenna suitable for monitoring building systems with large data requirements.

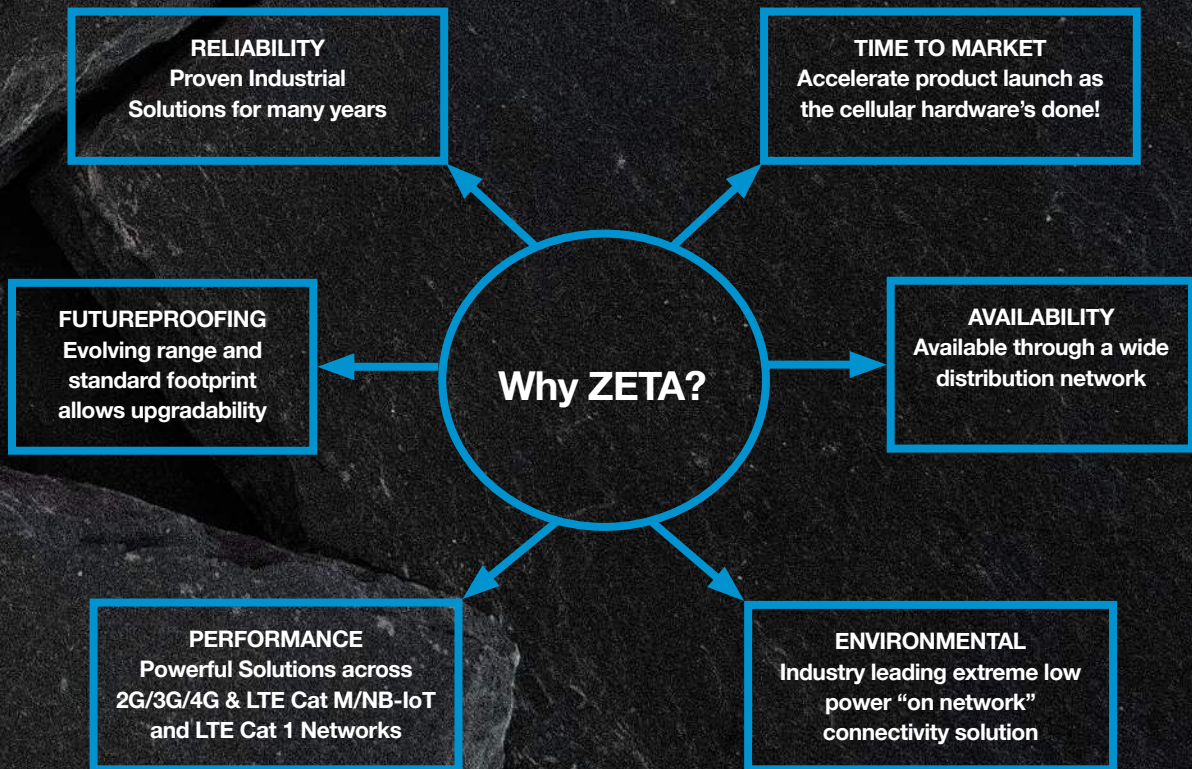
**ZETA - Industrial Modems**  
A recognised and well established range of robust modems providing 2G/3G/4G and LTE Cat M/NB IoT cellular communications to a host of remote industrial applications.

**Tango 14**  
Slim dome bolt through antenna: GSM/GPRS/3G for remote backup link to telecommunication cabinet

**Alpha1A**  
Adhesive quick fit antenna GSM/GPRS/3G/ISM/WiFi for utility company remote monitoring and billing.

**Tango 29**  
Covert antenna suitable for bluetooth app remote control gate entry systems

[www.siretta.com](http://www.siretta.com)







## Connecting Industrial Equipment to the Cellular Network

### Where can you buy ZETA Modems?

#### Regional Distributors



#### Worldwide Distributors



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