

Quectel NB-IoT Module BC66

Product Overview

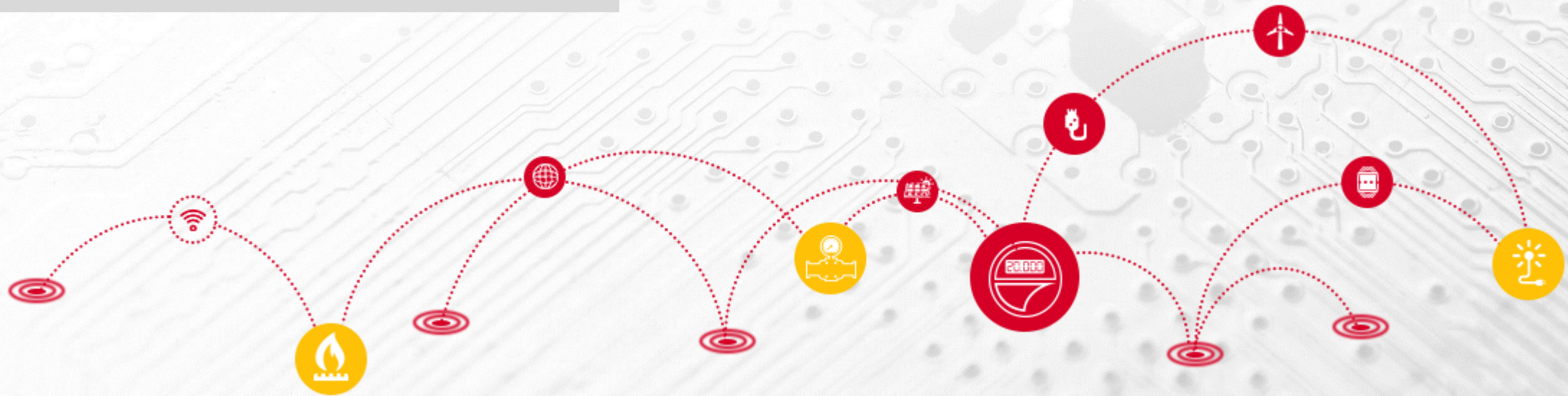
January, 2018

NB-IoT Technology

Product Overview

Technical Details

Applications



NB-IoT Advantages

Extended Coverage

Long Battery Life

NB-IoT Advantages

Licensed Spectrum

Massive Connectivity

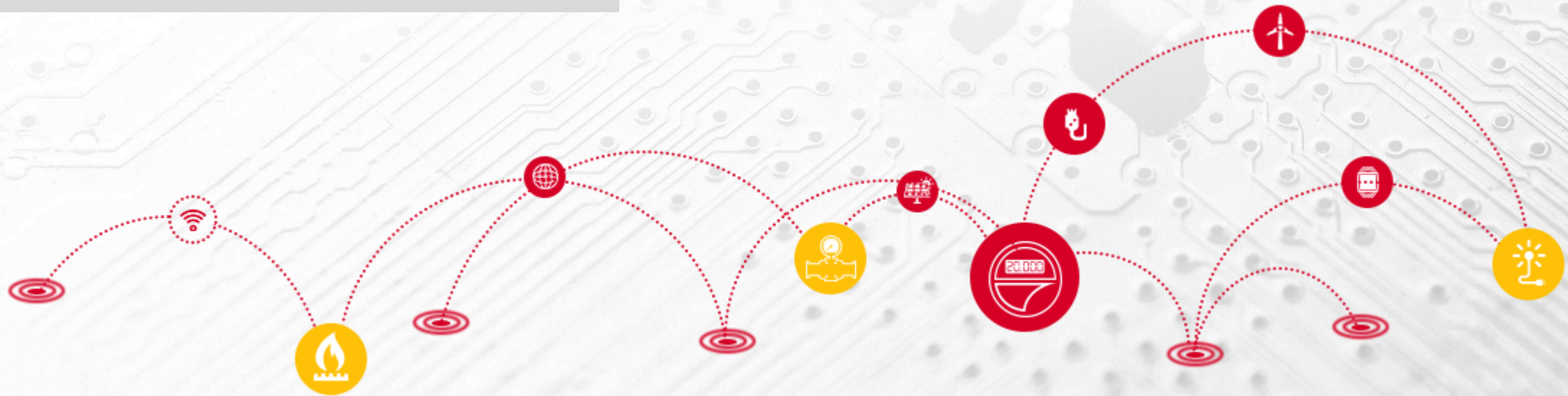
Low Cost

NB-IoT Technology

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BC66 Highlights

MTK MT2625



17.7mm × 15.8mm × 2.0mm

1

Global bands:

B1/B2/B3/B4/B5/B8/B12/B13/B17/B18/B19/B20/B25/B26/B28/B66

2

Rich hardware interfaces:

UART, SPI, I2S¹⁾, I2C¹⁾, USIM, ADC, NETLIGHT, PSM_EINT, PWRKEY, RESET

3

Abundant protocols:

UDP/TCP/CoAP/LWM2M/MQTT/DTLS*/SNTP*/HTTP(S)*/SSL*/PPP*/FTP*

4

Special features:

OpenCPU, DFOTA

5

Low power consumption:

Approx. 4uA in PSM mode

6

Compatibility:

Compatible with GSM/GPRS module M66

7

Power supply feature:

Low power supply voltage (2.1V~3.63V)

8

Wake up feature:

Specialized PSM_ENIT for module wake-up via external interrupt

9

Ultra-compact size:

17.7mm × 15.8mm × 2.0mm

** means under development.*

¹⁾ means supported only on OpenCPU version.

BC66 Main Interfaces

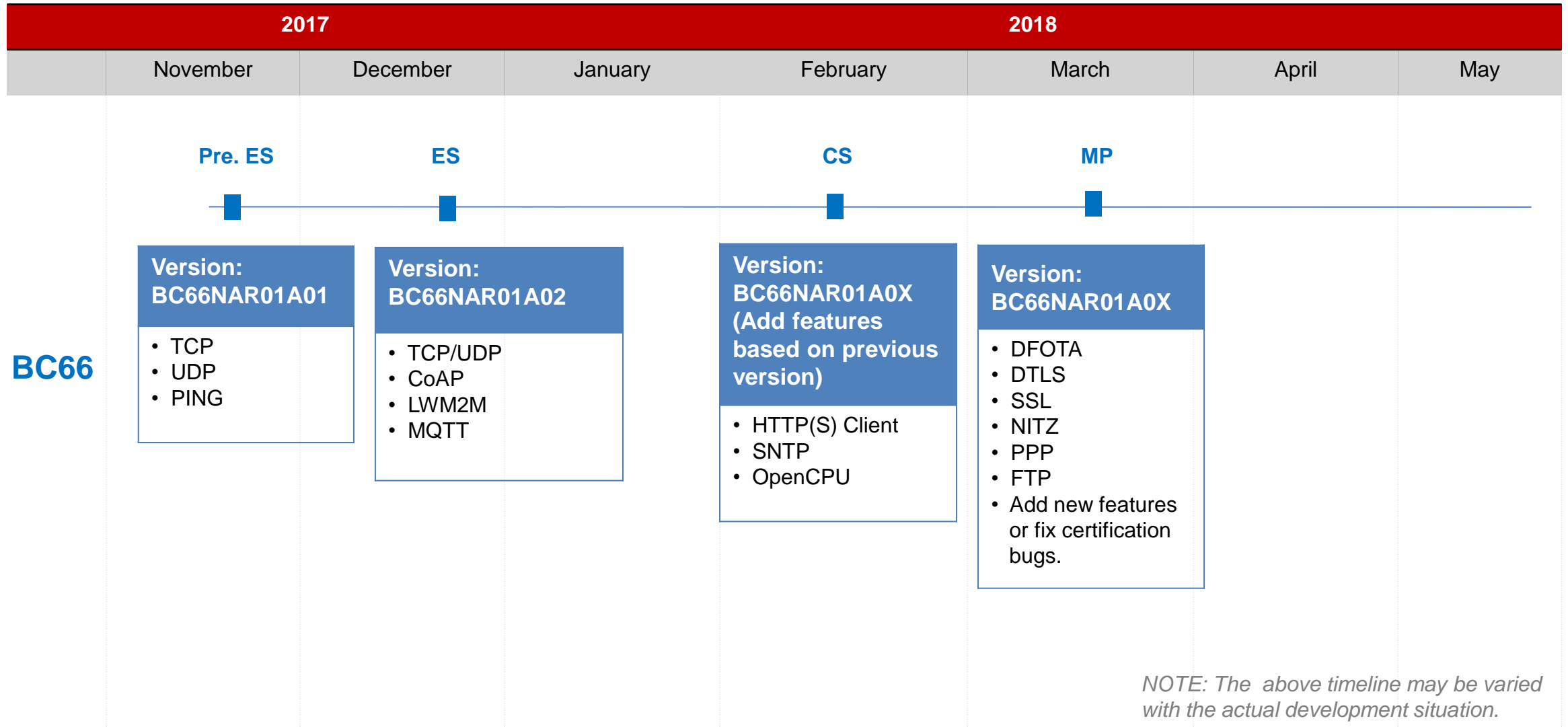
Interface	BC66
USIM	1
UART	3 (Main_UART, AUX_UART, DBG_UART)
SPI	1
PSM_EINT	1 (wake up device via external interrupt)
ADC	1 (10 bits)
RESET	1
PWRKEY	1
NETLIGHT	1
Antenna Pad	1
I2C	1 (for OpenCPU version only)
I2S	1 (for OpenCPU version only)
GPIO	Configurable (for OpenCPU version only)

BC66 Main Functions

Function	BC66
Protocols	UDP/TCP/CoAP/LWM2M/MQTT/DTLS*/SNTP*/HTTP(S)*/SSL*/PPP*/FTP*
SMS	Text and PDU mode
DFOTA*	Delta firmware upgrade over the air
LWM2M	Supported
OpenCPU	In progress

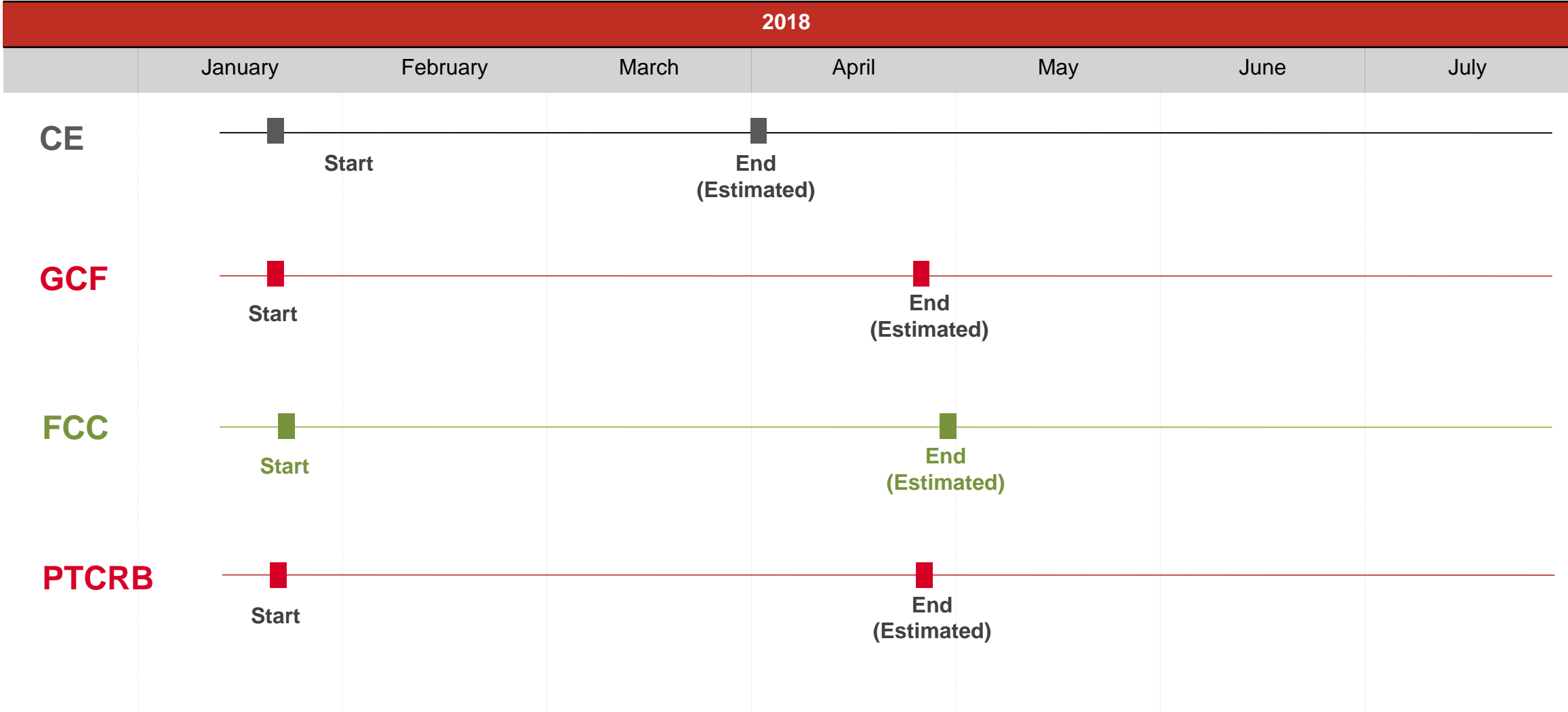
** means under development.*

BC66 Timeline



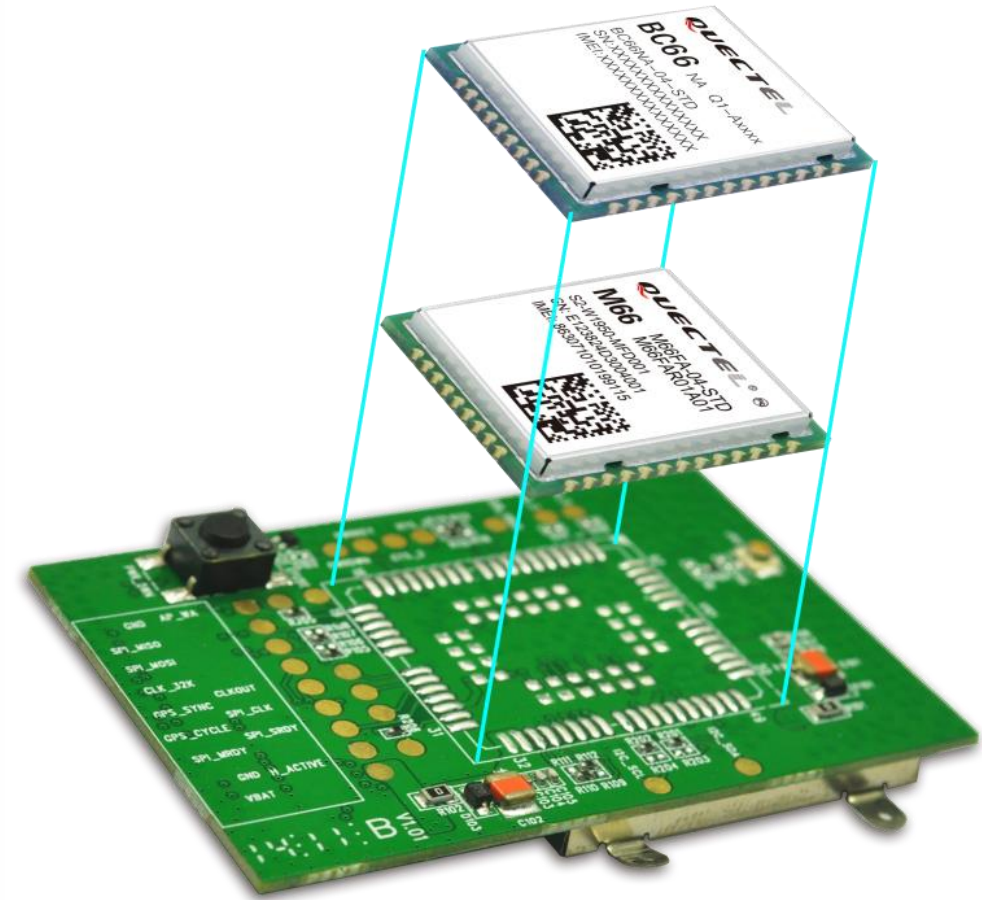
NOTE: The above timeline may be varied with the actual development situation.

BC66 Certification Test Plan (Market-Oriented)



Compatibility

BC66 is compatible with
Quectel GSM/GPRS M66 module.



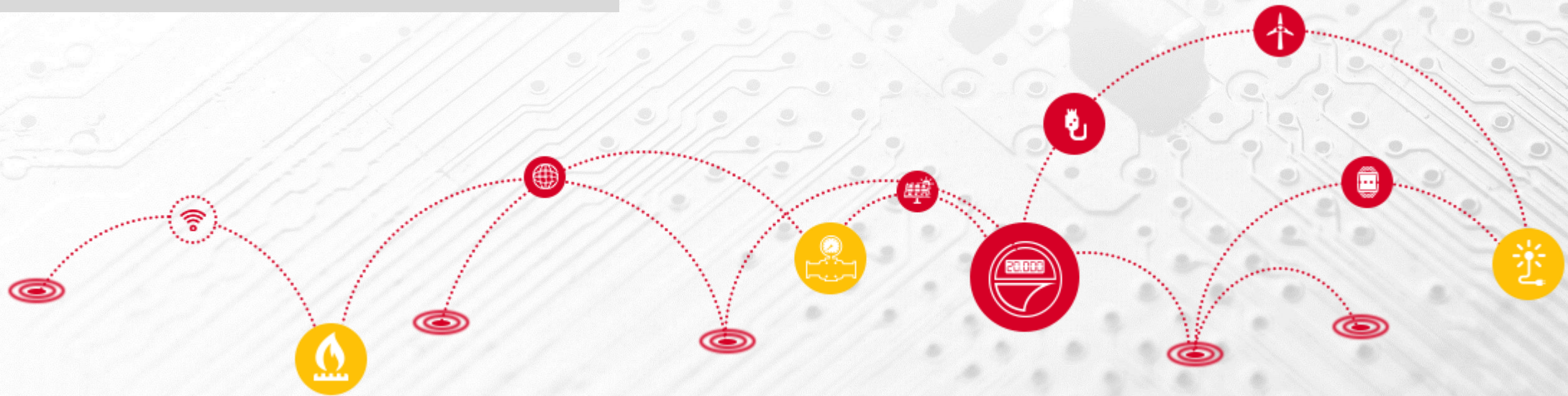
NOTE: For details, please refer to [Quectel_BC66&M66_Compatible_Design](#).

NB-IoT Technology

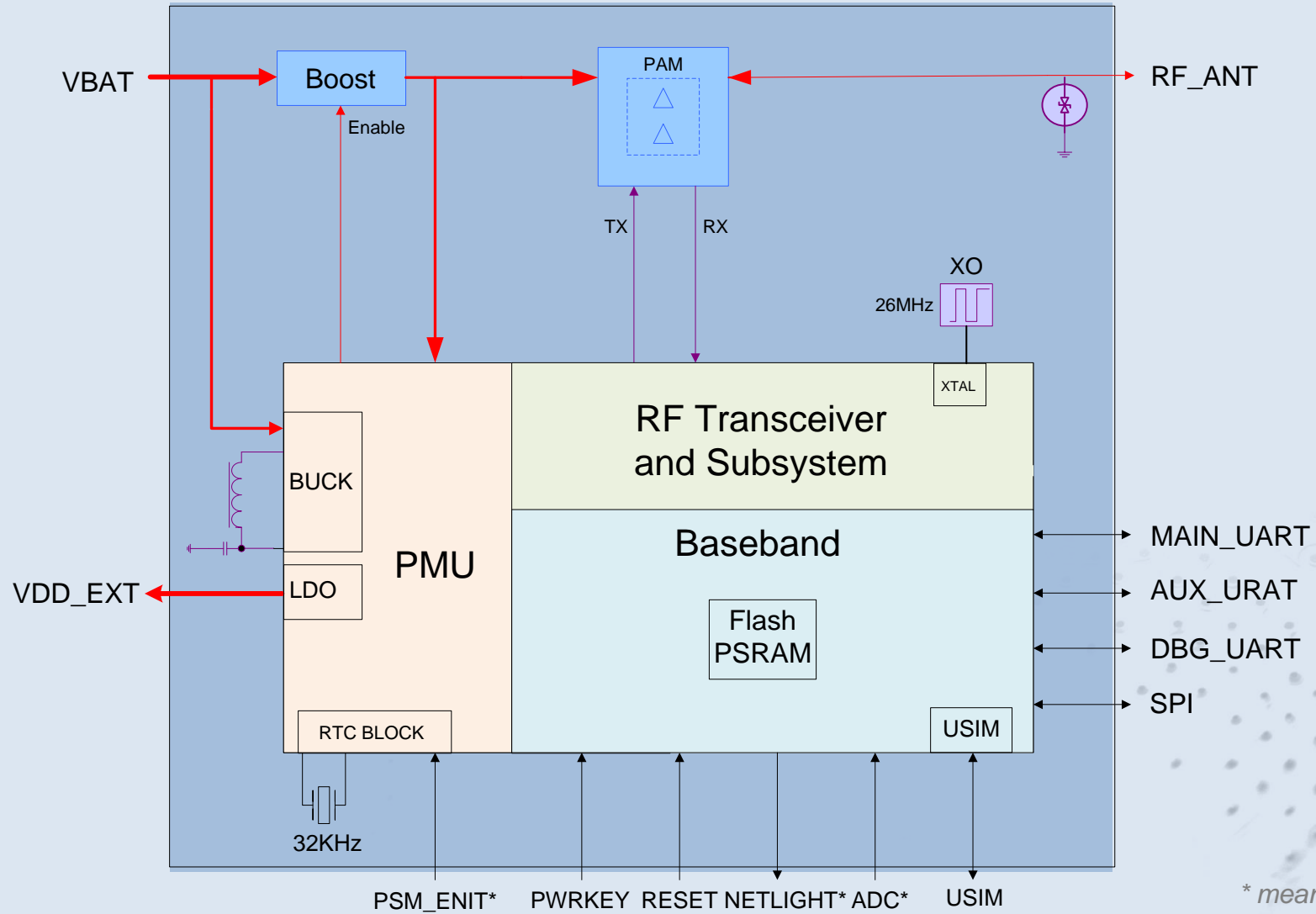
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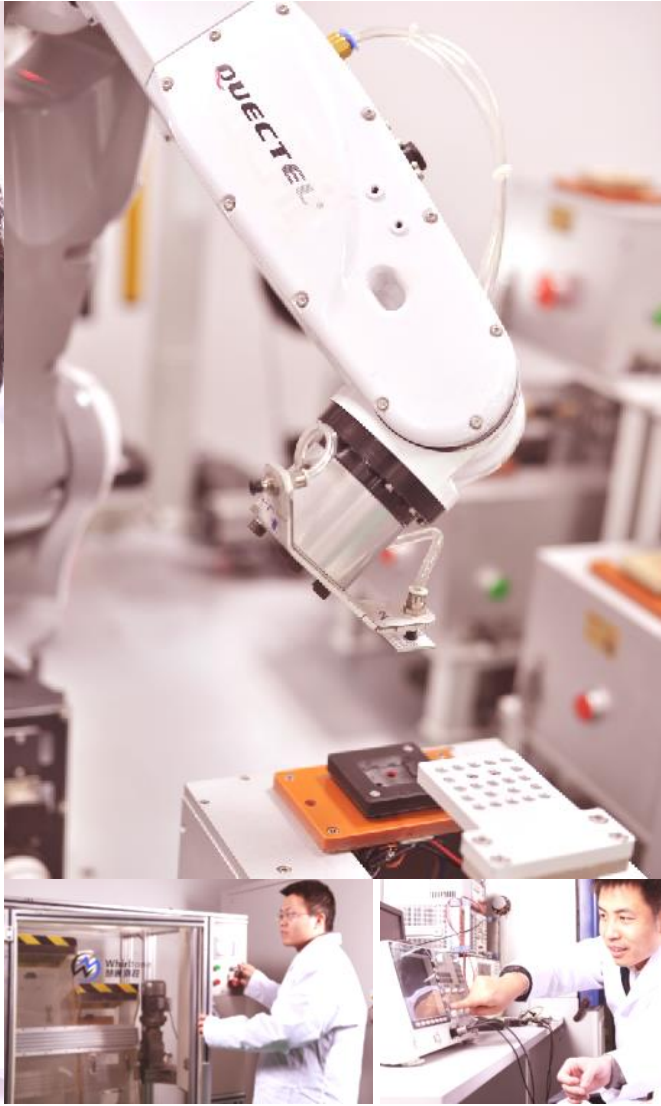
Applications



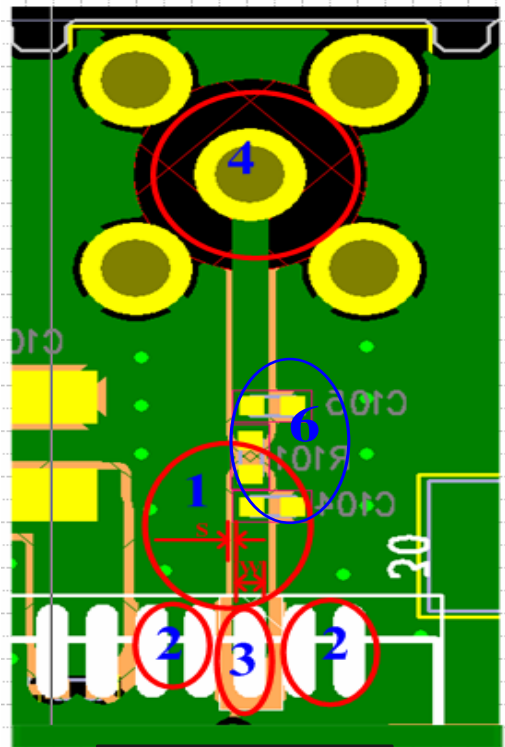
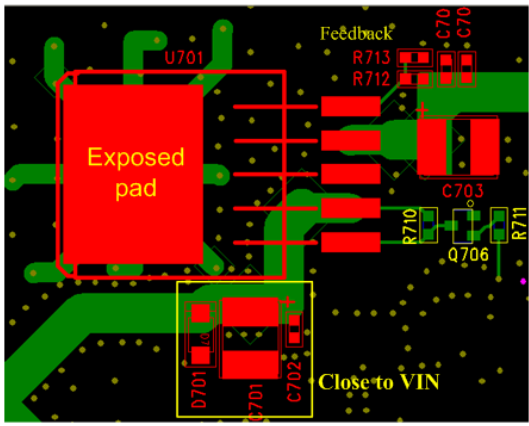
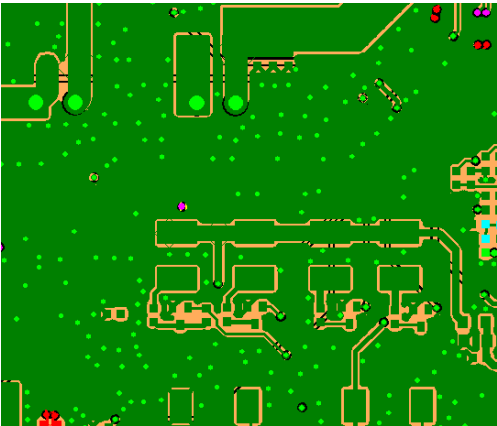
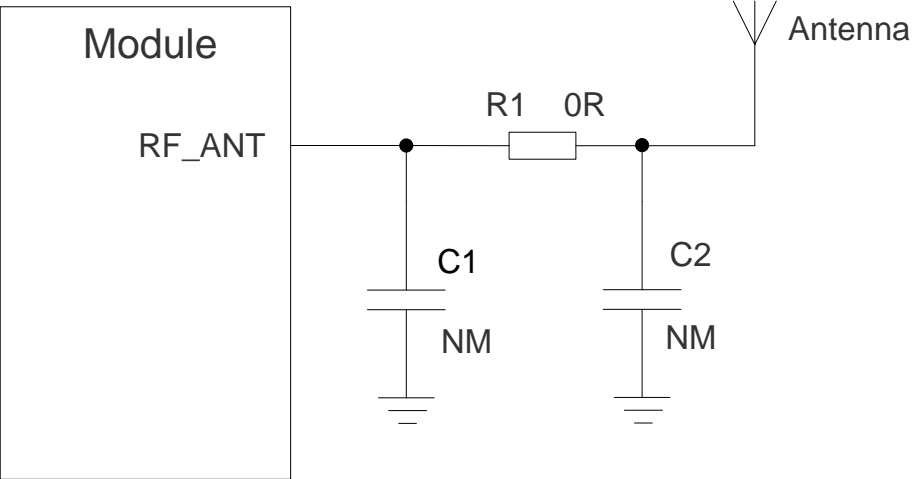
Hardware Architecture



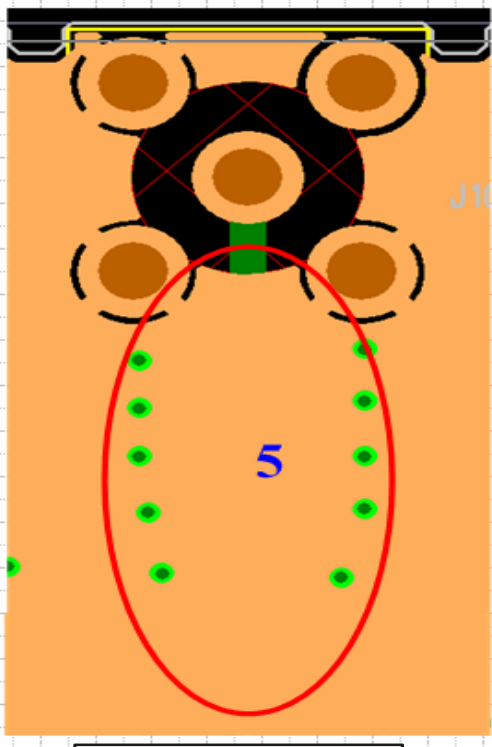
Quectel Comprehensive Technical Support



Hardware Reference Design & Schematic Review

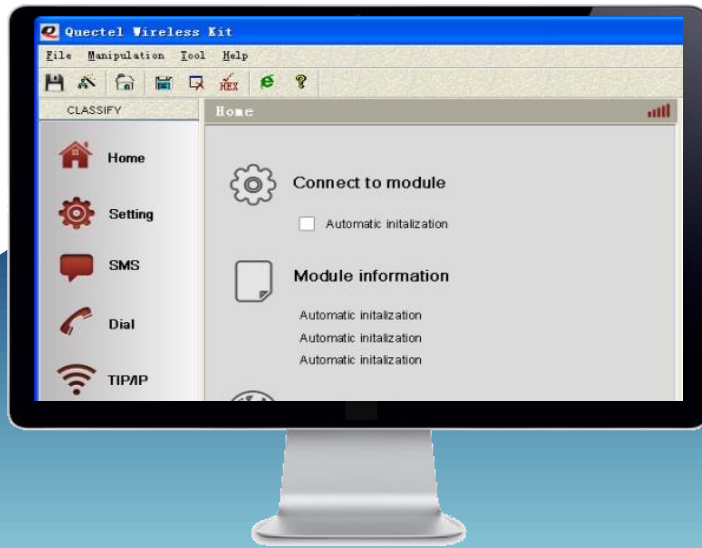


Top Side



Bottom Side

Quick Start



Quetel offers a GUI tool named **QNavigator**. It can help customers quickly test Quetel module's functionality.

BC66-TE-B Kit

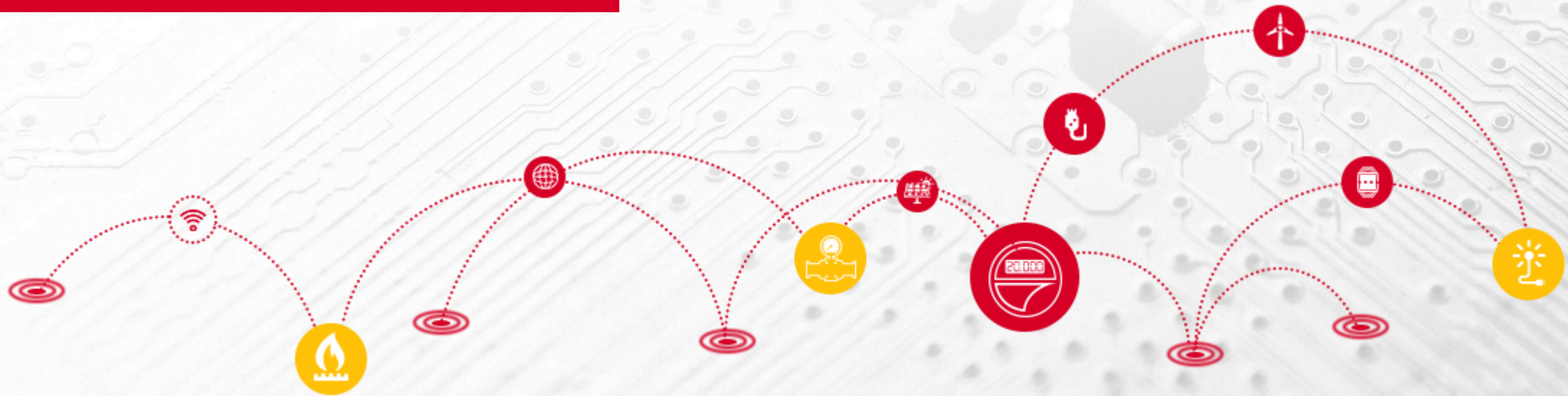


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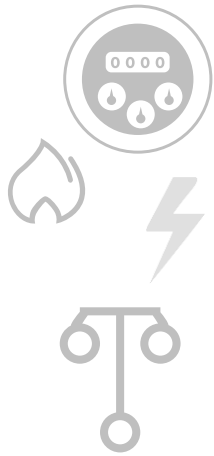
Applications



NB-IoT Application Market



Public Utilities



- Water/Gas Metering
- Parking
- Fire Hydrant
- Smoke Alarm
- Street Lighting
- Trash Bin

Personal Life



- Asset Tracking
- Electronics
- Person/Pet Tracking



Industry & Agriculture

- Gas Detector
- Soil PH/Optical Sensor
- Machine Alarm
- Irrigation Controller

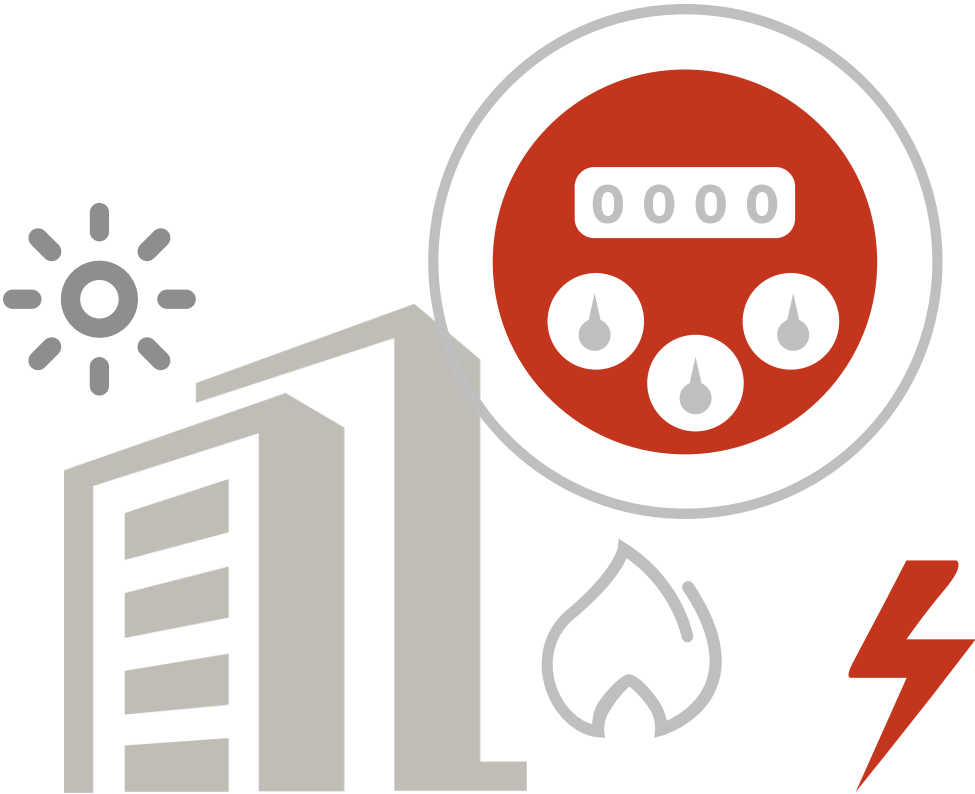


Smart Home

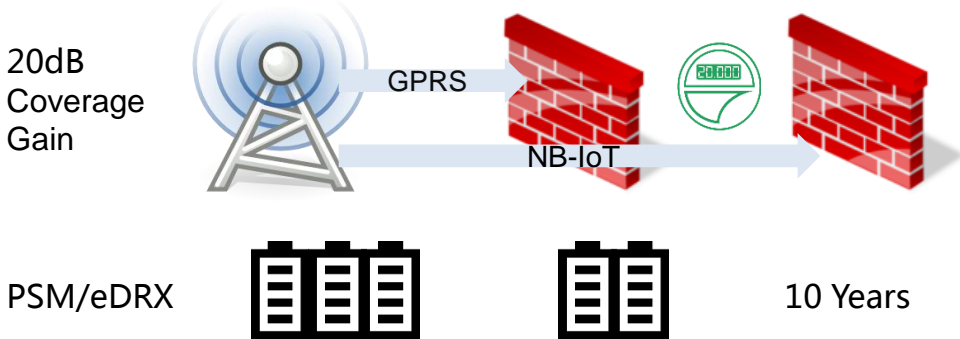
- Intelligent Door Lock
- Intelligent Control



Smart Metering



The most suitable solution for water meters



- Battery driven
- Daily water data collection
- Automatic pipeline leakage, burst, blockage and temperature detection

Smart Home



Smart Lock



Smart Smoke Detector



Home Appliances

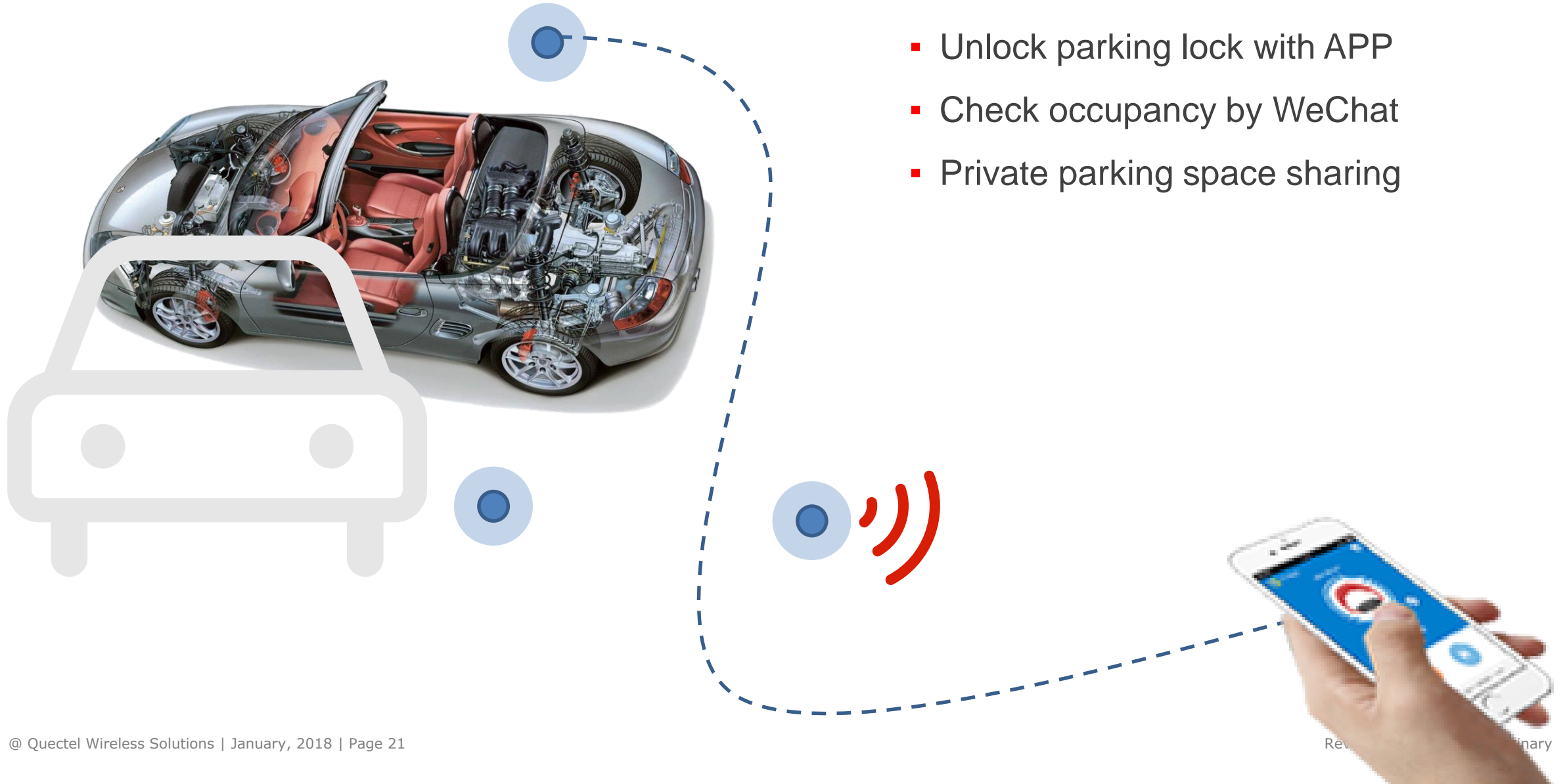
- NB-IoT smart locks
- Smart smoke detector
- NB-IoT white goods
- Higher safety, more convenient
- Easy connection to NB-IoT platform

Street Lighting



- Real time data feeds directly to the operation center
- Manual brightening of lighting when required
- Improved energy efficiency

Parking



Bike Sharing



Animal Testing



- Monitor health and safety of the cattle
- Improve milk yield and ensure in-time cow breeding

Multi-gas Detector



- Monitors up to several threats, including VOCs, combustibles and toxics
- Real-time gas concentration reading, location, alarm and status indication

LPWA Network Deployments

Over 25 mobile operators committed to deploy Cat M1 and/or Cat NB1 networks

Verizon/ AT&T/ TELUS (Cat M1)
Sprint (Cat M1 + Cat NB1)

KPN/ Orange (Cat M1)
Vodafone/ T-Mobile/ MegaFon/ Turkcell/ Etisalat (Cat NB1)
Telefonica/ Telia (Cat M1 + Cat NB1)

Telefonica/ Vivo (Cat NB1)

- Cat NB1
- Cat M1
- Cat M1 + Cat NB1

MTN (Cat NB1)

SKT (Cat M1)
CMCC/ CTCC/ CUCC/ KT/ LGU+/ M1 (Cat NB1)
NTT Docomo/ SoftBank/ KDDI (Cat M1 + Cat NB1)

Telstra (Cat M1)
Vodafone (Cat NB1)

Thank you!

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