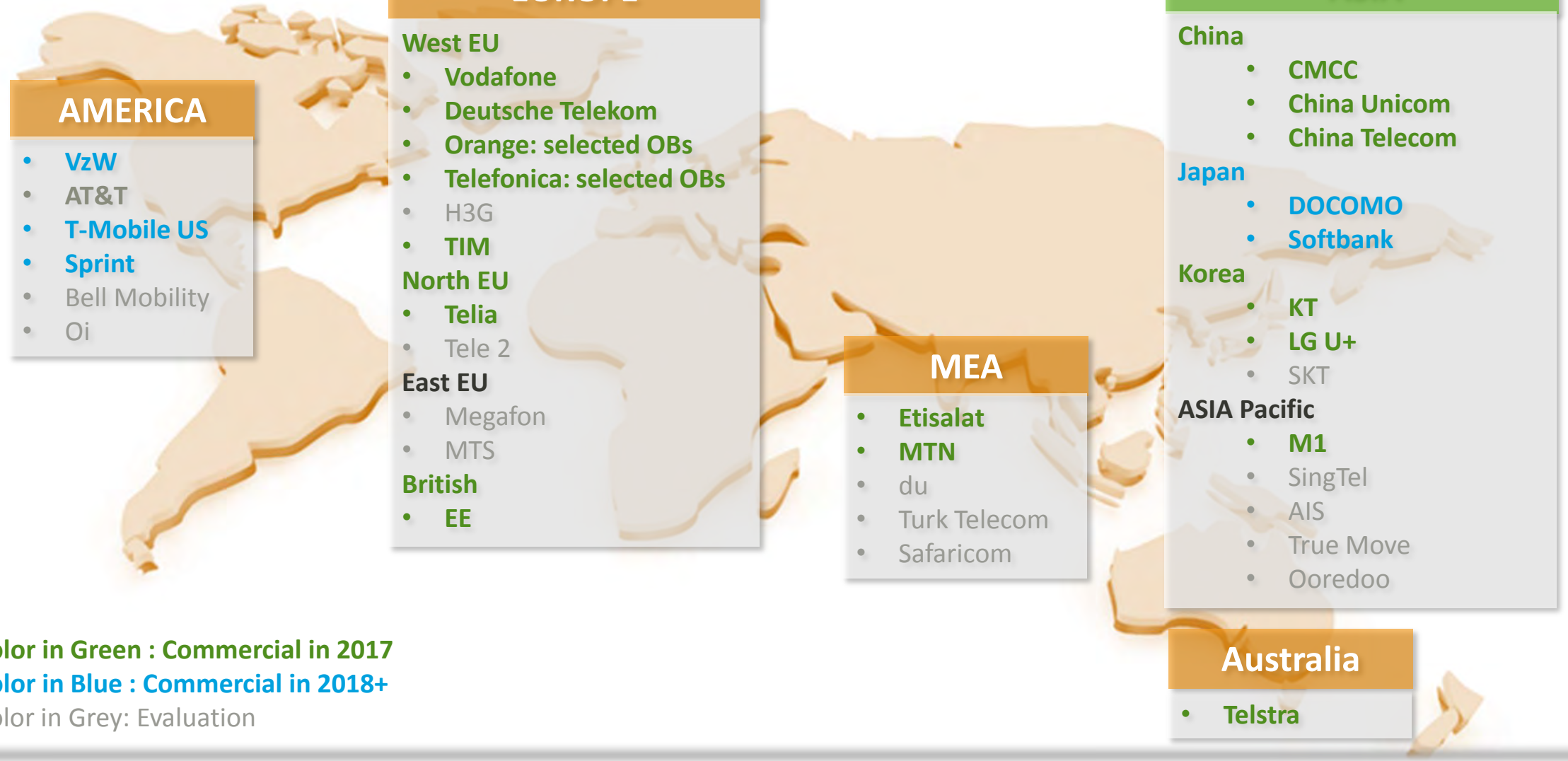
R&D Progress of M-IoT Chipset Product

Sep, 2017

MediaTek Presenter

	Dustin Fan	范恭達	Senior Technical Manager, Wireless Communication System and Partnership

LTE Cat-NB1 – Better Momentum for Massive IoT



AMERICA

- VzW
- AT&T
- T-Mobile US
- Sprint
- Bell Mobility
- Oi

EUROPE

West EU
- Vodafone
- Deutsche Telekom
- Orange: selected OBs
- Telefonica: selected OBs
- H3G
- TIM

North EU
- Telia
- Tele 2

East EU
- Megafon
- MTS

British
- EE

MEA

- Etisalat
- MTN
- du
- Turk Telecom
- Safaricom

ASIA

China
- CMCC
- China Unicom
- China Telecom

Japan
- DOCOMO
- Softbank

Korea
- KT
- LG U+
- SKT

ASIA Pacific
- M1
- SingTel
- AIS
- True Move
- Ooredoo

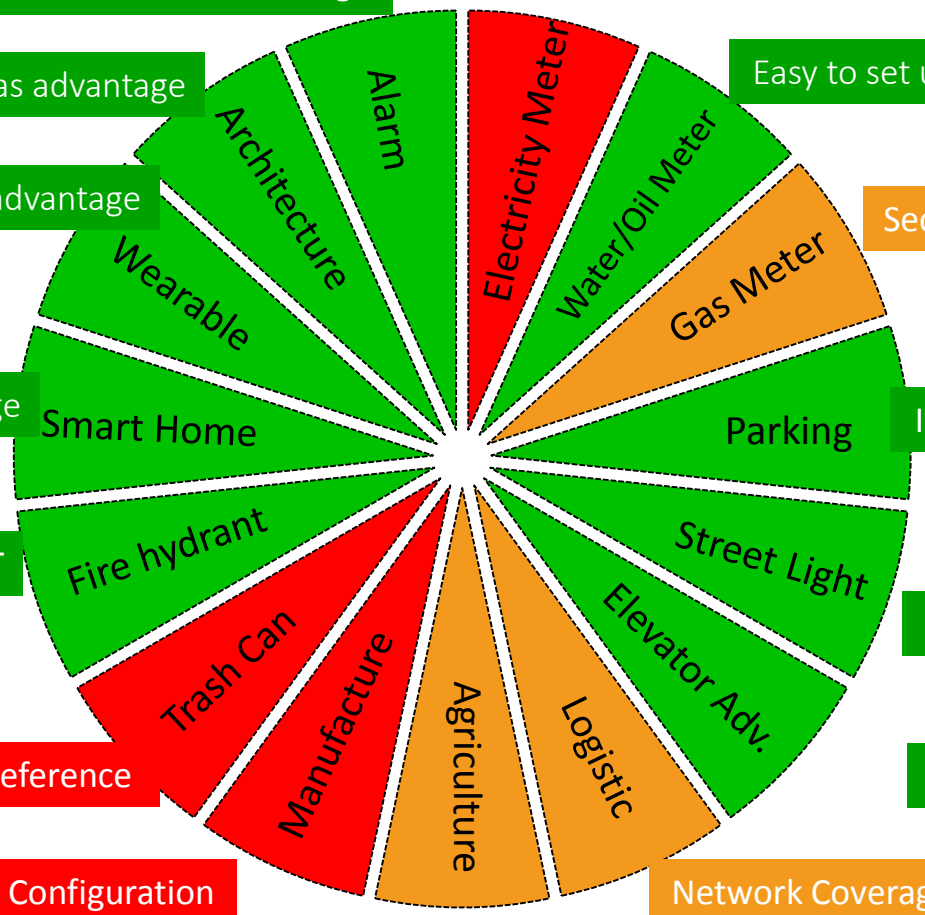
Australia

- Telstra

Color in Green : Commercial in 2017
Color in Blue : Commercial in 2018+
Color in Grey: Evaluation

MEDIATEK

NB-IOT Potential Applications Investigation



Easy to set up，NB-IOT has advantage

Depends on Network Topology by Country

Environment and Asset Management，NB-IOT has advantage

Easy to set up，Desperate to use NB-IOT

Low Power always Data Connection，NB-IOT has advantage

Security

Remove Home AP Router，NB-IOT has advantage

Improve efficiency & Payment，NB-IOT has advantage

Easy to set up，Desperate to use NB-IOT

Better Coverage & Tariff，NB-IOT has advantage

Depends on County Preference

Better Coverage & Tariff，NB-IOT has advantage

Mixed Network Configuration
(Wire Broadband, Fiber)

Network Coverage

Network Coverage

Source : NB-IOT Industrial Alliance in China, 2017

Mediatek NB-IOT solution Planning

Internet of Things Business Unit

MediaTek NB-IoT Focus on Rel. 14 Enhancements

- Further enhance NB-IoT network and device capabilities for more applications

Rel. 14 Feature	Rel. 13	Rel. 14	Improvement
Throughput Enhancements (2 HARQ Process, Larger TBS)	DL/UL ≈ 28/62 kbps	DL/UL ≈ 128/158 kbps	Make voice message, FOTA feasible
Positioning Enhancements	E-CID	OTDOA	better positioning accuracy for LBS
Mobility Enhancements	Idle Mode Mobility	Connected Mode Mobility	Better service continuity for tracker application
Lower Power Support	Power Class 3 (23dBm) Power Class 5 (20dBm)	Power Class 6 (14dBm)	Lower Tx power class to support lower current consumption by Mercury battery (e.g. 14 dBm for wearable devices)
Multicast Support	Uni-cast	SC-PTM	Efficient software/firmware upgrade for massive devices

- With Rel. 14, NB-IoT can further approach logistic, light wearable market
  - Core Spec. Completion: 2017/Q1
  - Perf. Spec. Completion: 2017/Q3

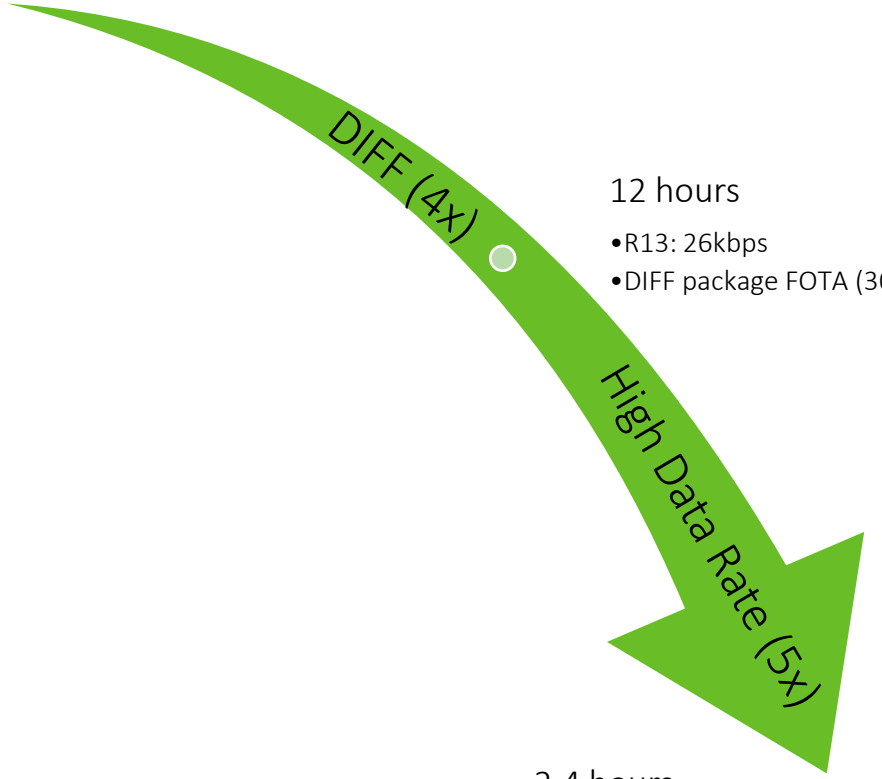
*MediaTek NB-IoT solution will come ready with Rel. 14

MEDIATEK

5 Times Faster

2days

- R13: 26kbps
- FULL package FOTA (1.2MB)
- 500 devices in a cell



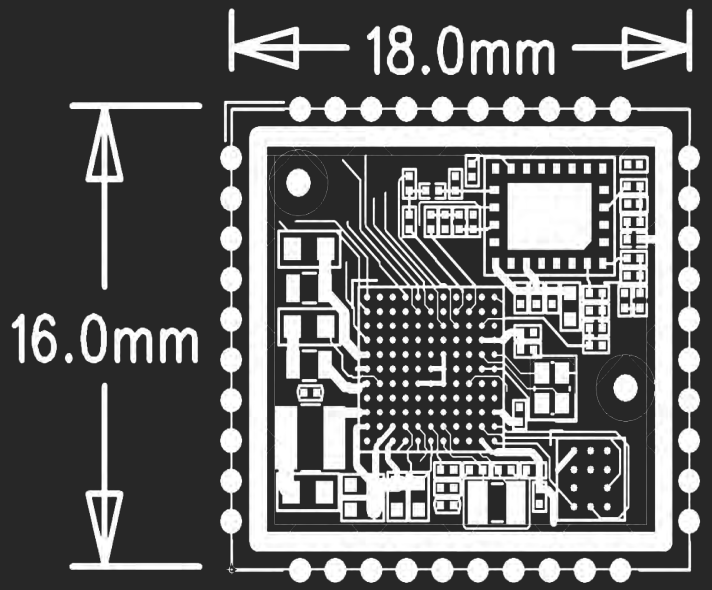
12 hours

- R13: 26kbps
- DIFF package FOTA (300kB)

2.4 hours

- R14: 126kbps
- DIFF package FOTA (300kB)

Mediatek NB-IoT MT2625 Reference Design



NB-IoT

A GLOBAL INITIATIVE
R14 NB2

Ultra Low Power

450-2100MHz

eSIM

IoT Cloud

IoT Cloud

MEDIATEK

NB-IoT Reference Design for Consumer Applications

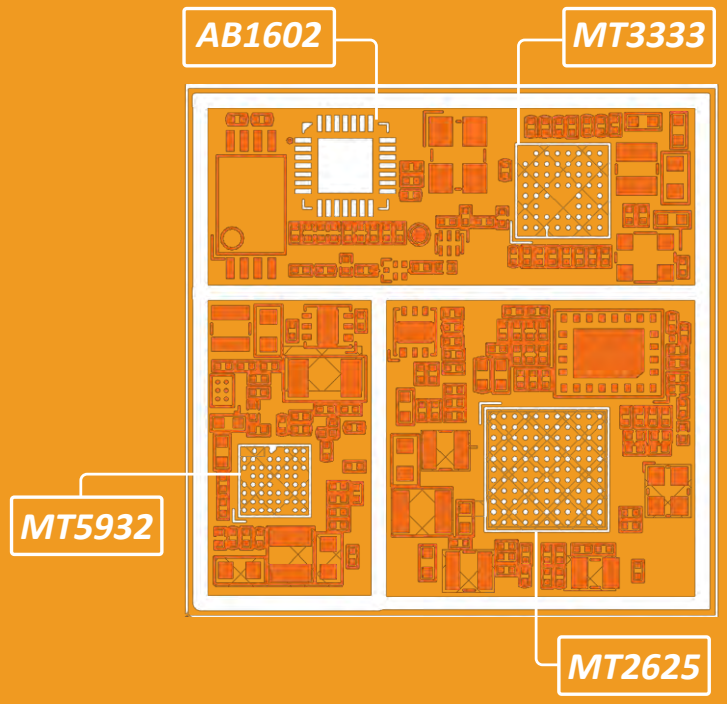
NB-IoT MT2625

R/L/C

Bluetooth

WiFi MT5932

GPS MT3333



NB-IoT

R14 Enhance

UltraLow Power

450-2100MHz

WiFi/BT/GNSS

IoT Cloud

Software / Hardware Integrated Reference