



Quectel 5G & LTE-Advanced Module Product Overview

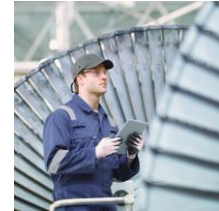
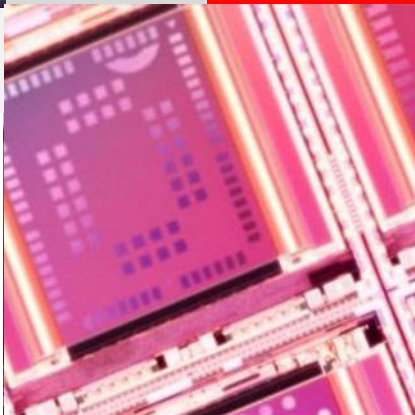
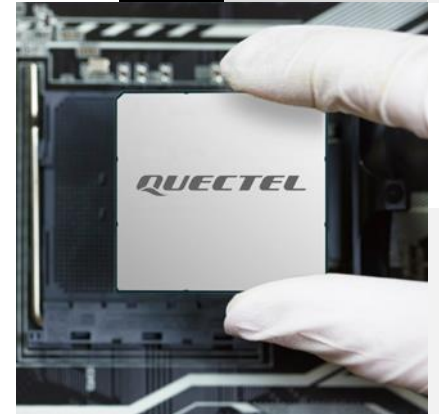
Build a Smarter World



Duty of Confidentiality

The Receiving Party shall keep confidential all documentation and information provided by Quectel, except when the specific permission has been granted by Quectel. The Receiving Party shall not access or use Quectel's documentation and information for any purpose except as expressly provided herein. Furthermore, the Receiving Party shall not disclose any of the Quectel's documentation and information to any third party without the prior written consent by Quectel. For any noncompliance to the above requirements, unauthorized use, or other illegal or malicious use of the documentation and information, Quectel will reserve the right to take legal action.

Build a Smarter World





5G & LTE-Advanced Roadmap

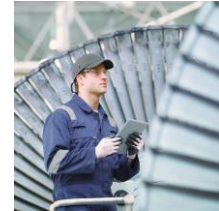
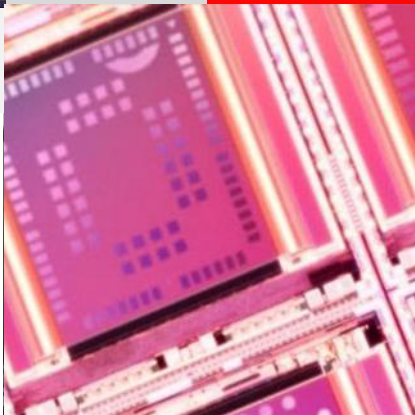
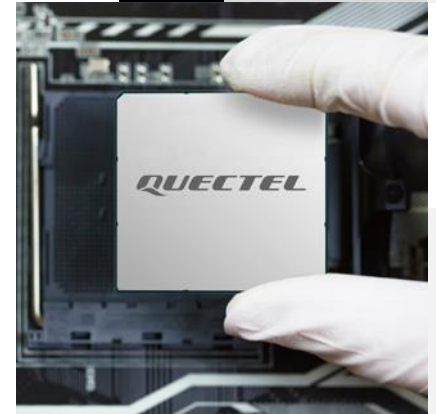
5G Product Overview

5G QuecOpen[®]

LTE-A Product Overview

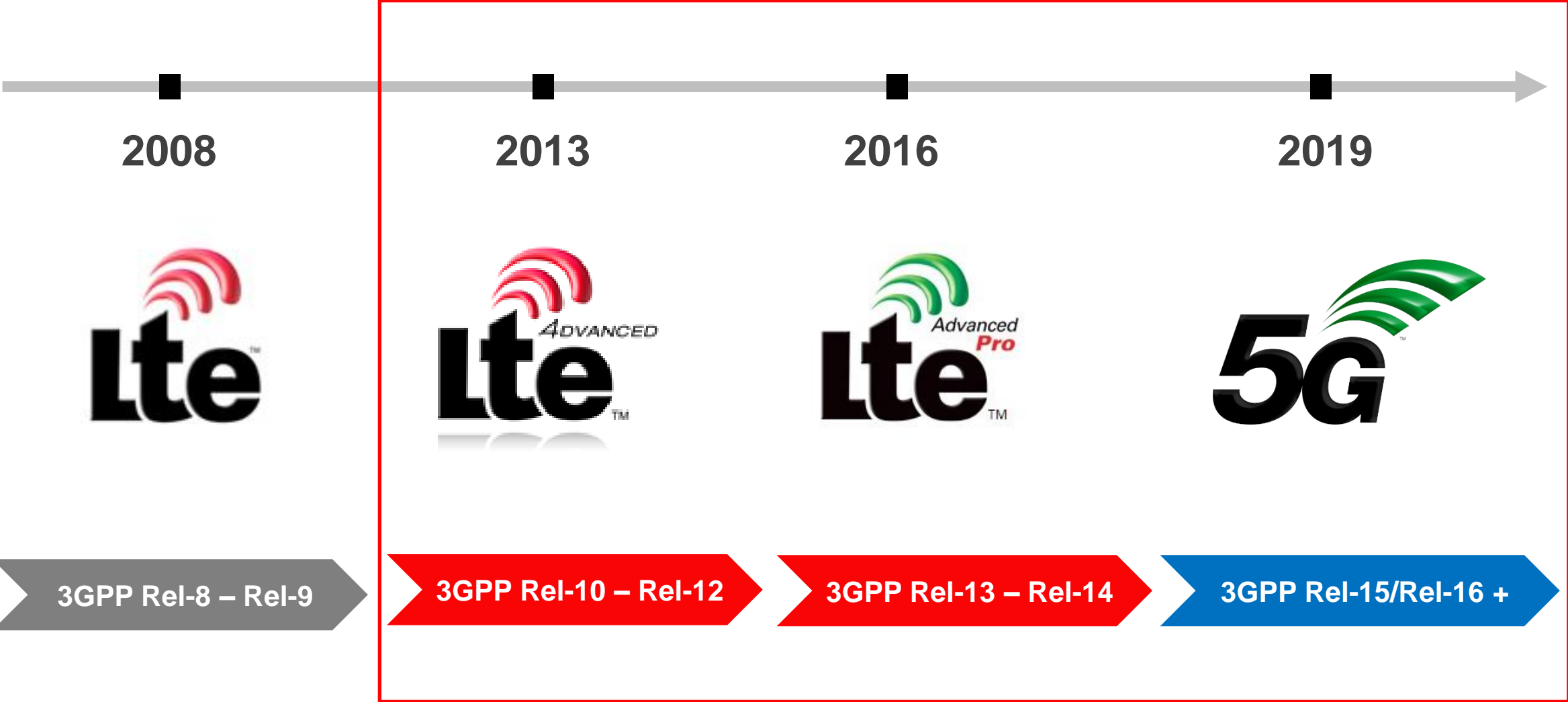
Technical Details

Application Fields

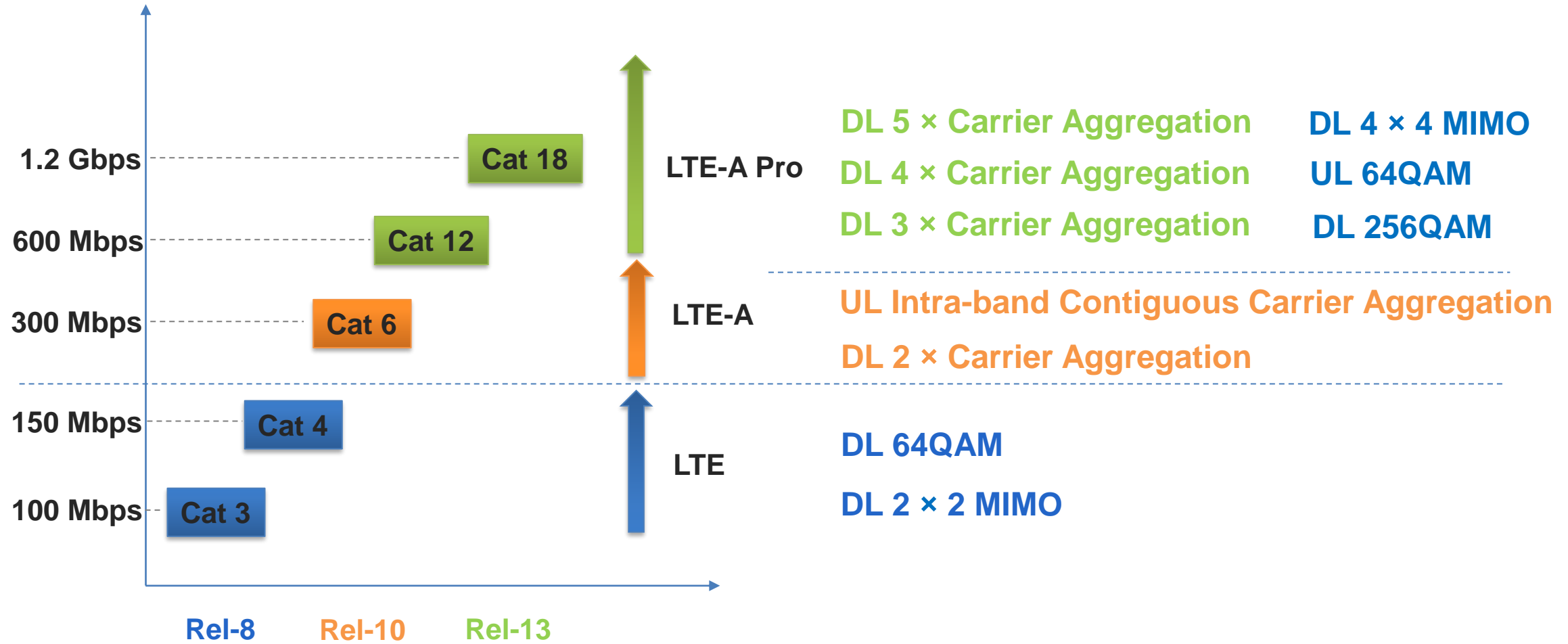


Build a Smarter World

Cellular Networks Keep on Evolving



Key LTE-A/ LTE-A Pro Technology



More Spectrums Aggregated

Multi-Antenna Technology

Higher Order Modulation

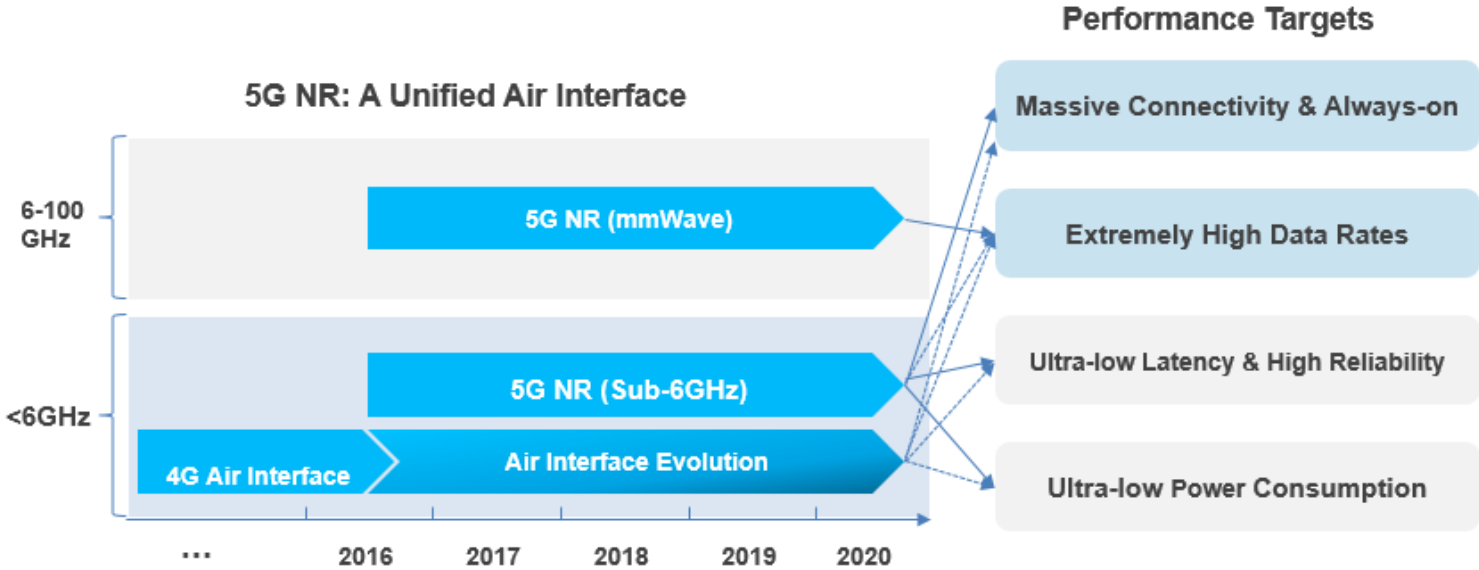
Key 5G Technology: More Spectrums



mmWave
100–800 MHz Bandwidth

Sub-6 GHz
100–200 MHz Bandwidth

Sub-2.6 GHz
20–100 MHz Bandwidth



5G/ LTE-A Module Roadmap

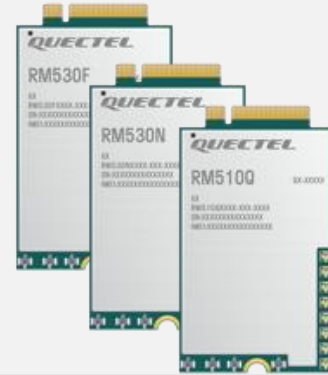
mmWave

• Qx/YY Estimated Engineering Sample Time



RG530F Series

• Q1/22



RM530F Series

• Q1/22

RM530N Series

• Q1/22

RM510Q-GL

Sub-6 G



RG500L Series

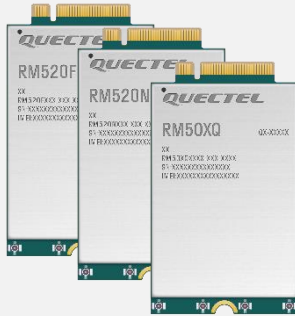


RG520F Series

• Q1/22

RG520N Series

RG50xQ Series



RM520F Series

• Q1/22

RM520N-GL

RM50xQ Series

Cat 12/ 16/ 18



EG18 Series

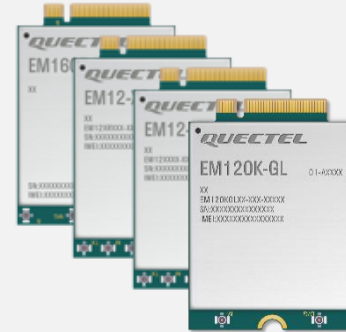
EG12 Series

EG120K Series



EG512R-EA

Compatible Design



EM160R-GL

EM12xR-GL

EM12-G

EM120K Series

• Q4/21

Cat 6



EG060K Series

EG06 Series

EG060V-EA



EG065K Series

EP06 Series

Compatible Design



EM060K Series

• Q4/21

EM06 Series

Compatible Design



5G & LTE-Advanced Roadmap

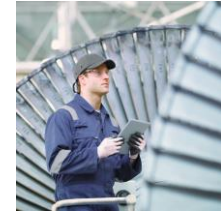
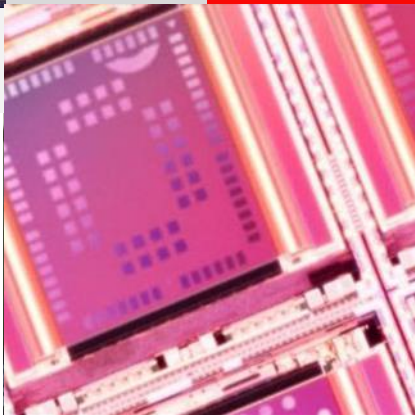
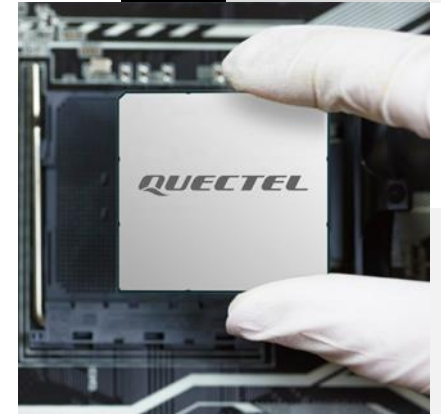
5G Product Overview

5G QuecOpen[®]

LTE-A Product Overview

Technical Details

Application Fields




Build a Smarter World

5G Module Overview




Sub-6 GHz

Sub-6 GHz + mmWave



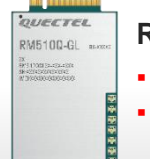
RG50xQ Series

- LGA Form Factor
- Variants:
 - EA
 - EU
 - GT




RM50xQ Series

- M.2 Form Factor
- Variants:
 - GL
 - AE




RM510Q-GL

- M.2 Form Factor
- Variant:
 - GL



RG520N Series

- LGA Form Factor
- Variants:
 - EU Engineering Sample
 - NA Engineering Sample




RM520N-GL

- M.2 Form Factor
- Variant:
 - GL Engineering Sample



RM530N Series

- M.2 Form Factor
- Variant:
 - GL Under Development ◆ Q1/22



RG520F Series

- LGA Form Factor
- Variants:
 - EU Under Development ◆ Q1/22
 - NA Under Development ◆ Q1/22



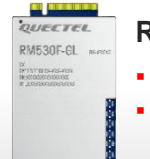
RM520F-GL

- M.2 Form Factor
- Variant:
 - GL Planning ◆ Q1/22




RG530F Series

- LGA Form Factor
- Variants:
 - EU Under Development ◆ Q1/22
 - NA Under Development ◆ Q1/22



RM530F Series

- M.2 Form Factor
- Variant:
 - GL Planning ◆ Q1/22



RG500L Series

- LGA Form Factor
- Variants:
 - EU
 - NA Under Development ◆ Q4/21

◆ Qx/YY Estimated Engineering Sample Time

Version: 5.2 | Status: Released

RG50xQ Series Specifications



44.0 mm × 41.0 mm × 2.75 mm
5G Sub-6 GHz LGA Module

■ UMTS/LTE/5G Multi-Mode Module

Variant		RG500Q-EA	RG502Q-EA	RG500Q-EU	RG501Q-EU	RG502Q-EU	RG502Q-GT
5G NR	5G NR	3GPP Release 15 NSA/SA operation, Sub-6 GHz		3GPP Release 15 NSA/SA operation, Sub-6 GHz		3GPP Release 15 SA operation, Sub-6 GHz	
	NSA Bands	n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n77/n78/n79		n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n77/n78		-	
	SA Bands	n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n77/n78/n79		n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n77/n78		n78	
	Sub-6 CA	-	TDD + TDD DL CA*	-	-	TDD + TDD DL CA*	TDD + TDD DL CA*
	DL 4 × 4 MIMO	n1/n3/n7/n38/n40/n41/n77/n78/n79		n1/n3/n7/n38/n40/n41/n77/n78		n78	
	UL 2 × 2 MIMO	n41/n77/n78/n79		n41/n77/n78		n78	
LTE	LTE Category	Cat 16		Cat 20		Cat 20	
	LTE Bands	B1/B3/B5/B7/B8/B18/B19/B20/B26/B28/ B32/B34/B38/B39/B40/B41/B42/B43		B1/B3/B5/B7/B8/B20/B28/B32/B38/B40/B41/B42/B43		B42/B43	
	DL 4 × 4 MIMO	B1/B3/B7/B32/B34/B38/B39/B40/B41/B42/B43		B1/B3/B5(optional)/B7/B20(optional)/B28(optional)/B32/B38/B40/B41/B42		B42/B43	
UMTS	WCDMA Bands	B1/B3/B5/B6/B8/B19		B1/B5/B8		-	
Embedded GNSS		Supported		Supported		-	
PCIe 3.0 Interface		Supported		Supported		Supported	
USB 3.1 Interface		Supported		Supported		Supported	
RGMII Interface		Supported		Supported		Supported	
eSIM		Supported		Supported / Built-in eSIM (optional)		Supported / Built-in eSIM (optional)	
Region		EMEA/ APAC		EMEA/ Oceania/ Brazil		Global TDD 3.5 GHz Network	
Certification		Carrier: Telstra ^{TBD} / China Telecom/ China Mobile/ China Unicom/ KT/ SKT/ LGU+ Regulatory: CE/ SRRC/ NAL/ CCC/ KC/ JATE/ TELEC/ RCM	Carrier: TBD Regulatory: CE/ RCM	Carrier: TBD Regulatory: CE*/ RCM*	Carrier: TBD Regulatory: GCF/ CE/ RCM	Carrier: TBD Regulatory: CE/ RCM	Carrier: TBD Regulatory: CE

RG500Q-EA/ RG502Q-EA Certification



Project Stage

RG500Q-EA

RG502Q-EA

Carrier Certification

RG500Q-EA

China Telecom/ China Mobile/ China Unicom/ KT/ SKT/
LGU+



Telstra

TBD

RG502Q-EA

TBD

Regulatory Certification

RG500Q-EA

CE/ SRRC/ NAL/ CCC/ KC/ JATE/ TELEC/ RCM



RG502Q-EA

CE/ RCM



RG500Q-EU/ RG501Q-EU/ RG502Q-EU Timeline



2021						2022					
Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.

Project Schedule

- RG500Q-EU 
- RG501Q-EU 
- RG502Q-EU 

MP: Hardware and software ready for mass production.

Carrier Certification

RG500Q-EU/ RG501Q-EU/ RG502Q-EU
TBD

Regulatory Certification

RG500Q-EU

CE/ RCM



RG501Q-EU

GCF/ CE/ RCM

Completed

RG502Q-EU

CE/ RCM

Completed

RG502Q-GT Timeline



Project Schedule

RG502Q-GT 

MP: Hardware and software ready for mass production.

Carrier Certification

TBD

Regulatory Certification

CE **Completed**

RG520N Series Specifications (Preliminary)



44.0 mm × 41.0 mm × 2.75 mm
5G Sub-6 GHz LGA Module

■ UMTS/LTE/5G Multi-Mode Module

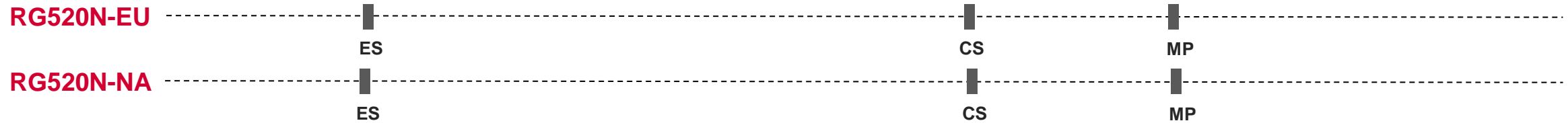
Variant		RG520N-EU	RG520N-NA
5G NR	5G NR	3GPP Release 16 NSA/SA operation, Sub-6 GHz	3GPP Release 16 NSA/SA operation, Sub-6 GHz
	NSA Bands	n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n75/n76/n77/n78	n2/n5/n7/n12/n13/n14/n25/n26/n29/n30/n38/n41/n48/n66/n70/n71/n77/n78
	SA Bands	n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n75/n76/n77/n78	n2/n5/n7/n12/n13/n14/n25/n26/n29/n30/n38/n41/n48/n66/n70/n71/n77/n78
	Sub-6 CA	FDD + FDD, TDD + TDD, FDD + TDD 2CA	FDD + FDD, TDD + TDD, FDD + TDD 2CA
	DL 4 × 4 MIMO	n1/n3/n7/n38/n40/n41/n77/n78/n75/n76	n2/n7/n25/n30/n38/n41/n48/n66/n70/n77/n78
LTE	LTE Category	Cat 19	Cat 19
	LTE Bands	B1/B3/B5/B7/B8/B20/B28/B32/B38/B40/B41/B42/B43	B2/B4/B5/B7/B12/B13/B14/B17/B25/B26/B29/B30/B38/B41/B42/B43/ B46/B48/B66/B71
	DL 4 × 4 MIMO	B1/B3/B7/B32/B38/B40/B41/B42/B43	B2/B4/B25/B30/B66/B41/B42/B43/B48
UMTS	WCDMA Bands	B1/B5/B8	-
Embedded GNSS		Supported	Supported
PCIe 4.0 Interface		Supported	Supported
USB 3.1 Interface		Supported	Supported
RGMII Interface		Not Supported	Not Supported
Region		EMEA/ Oceania/ Brazil	North America
Certification		Carrier: TBD Regulatory: CE*/ RCM*	Carrier: TBD Regulatory: FCC*/ IC*

RG520N Series Timeline (Preliminary)



2021						2022					
Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.

Project Schedule



ES: Engineering samples ready. Basic functions are available for customers' simple demo purpose.

CS: Commercial samples ready. Stable hardware design and quite stable software design. New software features can be added upon request.

MP: Hardware and software ready for mass production.

Carrier Certification (Planning)

RG520N-EU / RG520N-NA

TBD

Regulatory Certification (Planning)

RG520N-EU

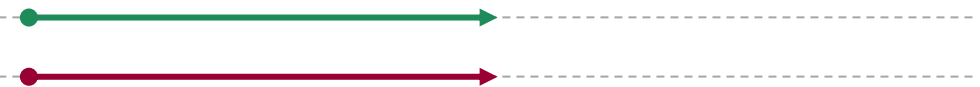
CE/RCM



RG520N-NA

FCC

IC



Notes: 1. This is the preliminary timeline, and it might be influenced by the Qualcomm chipsets timeline.

2. TBD: To Be Determined.

RG520F Series Specifications (Preliminary)



45.0 mm × 48.0 mm × 2.85 mm (approx.)
5G Sub-6 GHz LGA Module

■ UMTS/LTE/5G Multi-Mode Module

Variant		RG520F-EU (Draft)	RG520F-NA (Draft)
5G NR	5G NR	3GPP Release 16 NSA/SA operation, Sub-6 GHz	3GPP Release 16 NSA/SA operation, Sub-6 GHz
	NSA Bands	n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n75/n76/n77/n78	n2/n5/n7/n12/n13/n14/n25/n26/n29/n30/n38/n41/n48/n66/n70/n71/n77/n78
	SA Bands	n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n75/n76/n77/n78	n2/n5/n7/n12/n13/n14/n25/n26/n29/n30/n38/n41/n48/n66/n70/n71/n77/n78
	Sub-6 CA	FDD + FDD, TDD + TDD, FDD + TDD DL 3CA / UL 2CA	FDD + FDD, TDD + TDD, FDD + TDD DL 3CA / UL 2CA
	DL 4 × 4 MIMO	n1/n3/n7/n38/n40/n41/n75/n76/n77/n78	n2/n7/n25/n30/n38/n41/n48/n66/n70/n77/n78
LTE	LTE Category	Cat 20	Cat 20
	LTE Bands	B1/B3/B5/B7/B8/B20/B28/B32/B38/B40/B41/B42/B43	B2/B4/B5/B7/B12(B17)/B13/B14/B25/B26/B29/B30/B38/B41/B42/B43/ B46/B48/B66/B71
	DL 4 × 4 MIMO	B1/B3/B7/B32/B38/B40/B41/B42/B43	B2/B4/B25/B30/B41/B42/B43/B48/B66
UMTS	WCDMA Bands	B1/B5/B8	-
Embedded GNSS		Supported	Supported
PCIe 4.0 Interface		Supported	Supported
USB 3.1 Interface		Supported	Supported
RGMI Interface		Not Supported	Not Supported
Region		EMEA/ Oceania/ Brazil	North America
Certification		Carrier: TBD Regulatory: GCF ^{TBD} /CE*/ RCM*	Carrier: TBD Regulatory: GCF ^{TBD} /PTCRB ^{TBD} /FCC*/ IC*

Notes: 1. “*”: Under development/ In progress.
2. TBD: To Be Determined.

RG520F Series Timeline (Preliminary)



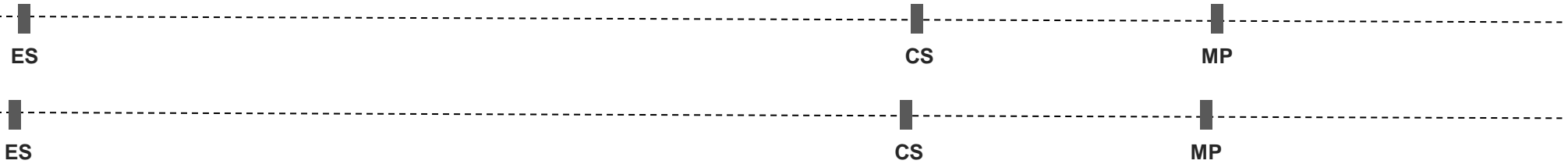
2022

Jan.	Feb.	Mar.	Apr.	May	Jun.
------	------	------	------	-----	------

Project Schedule

RG520F-EU

RG520F-NA



ES: Engineering samples ready. Basic functions are available for customers' simple demo purpose.
 CS: Commercial samples ready. Stable hardware design and quite stable software design. New software features can be added upon request.
 MP: Hardware and software ready for mass production.

Carrier Certification (Planning)

RG520F-EU / RG520F-NA

TBD

Regulatory Certification (Planning)

RG520F-EU

CE/RCM

GCF TBD



RG520F-NA

FCC/IC

GCF/PTCRB TBD



RG530F Series Specifications (Preliminary)



45.0 mm × 48.0 mm × 2.85 mm (approx.)
5G Sub-6 GHz LGA Module

■ UMTS/LTE/5G Multi-Mode Module

Variant		RG530F-EU (Draft)	RG530F-NA (Draft)
5G NR	5G NR	3GPP Release 16 NSA/SA operation, Sub-6 GHz, mmWave	3GPP Release 16 NSA/SA operation, Sub-6 GHz, mmWave
	Sub-6 NSA Bands	n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n75/n76/n77/n78	n2/n5/n7/n12/n13/n14/n25/n26/n29/n30/n38/n41/n48/n66/n70/n71/n77/n78
	Sub-6 SA Bands	n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n75/n76/n77/n78	n2/n5/n7/n12/n13/n14/n25/n26/n29/n30/n38/n41/n48/n66/n70/n71/n77/n78
	Sub-6 CA	FDD + FDD, TDD + TDD, FDD + TDD DL 3CA / UL 2CA	FDD + FDD, TDD + TDD, FDD + TDD DL 3CA / UL 2CA
	mmWave Bands	n257/n258/n260/n261	n257/n258/n260/n261
	DL 4 × 4 MIMO	n1/n3/n7/n38/n40/n41/n75/n76/n77/n78	n2/n7/n25/n30/n38/n41/n48/n66/n70/n77/n78
LTE	LTE Category	Cat 20	Cat 20
	LTE Bands	B1/B3/B5/B7/B8/B20/B28/B32/B38/B40/B41/B42/B43	B2/B4/B5/B7/B12(B17)/B13/B14/B25/B26/B29/B30/B38/B41/B42/B43/B46/B48/B66/B71
	DL 4 × 4 MIMO	B1/B3/B7/B32/B38/B40/B41/B42/B43	B2/B4/B25/B30/B41/B42/B43/B48/B66
UMTS	WCDMA Bands	B1/B5/B8	-
Embedded GNSS		Supported	Supported
PCIe 4.0 Interface		Supported	Supported
USB 3.1 Interface		Supported	Supported
RGMI Interface		Not Supported	Not Supported
Region		EMEA/ Oceania/ Brazil	North America
Certification		Carrier: TBD Regulatory: TBD	Carrier: TBD Regulatory: TBD

RG530F Series Timeline (Preliminary)

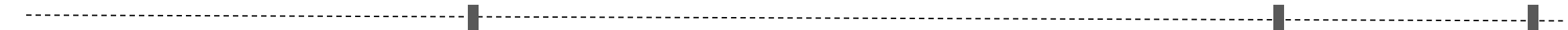


2022

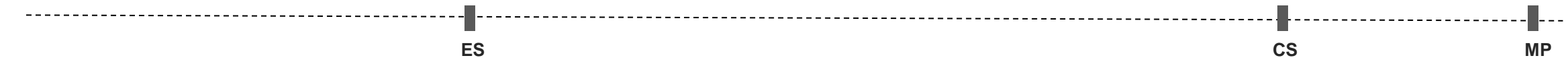
Jan.	Feb.	Mar.	Apr.	May	Jun.
------	------	------	------	-----	------

Project Schedule

RG530F-EU



RG530F-NA



ES: Engineering samples ready. Basic functions are available for customers' simple demo purpose.

CS: Commercial samples ready. Stable hardware design and quite stable software design. New software features can be added upon request.

MP: Hardware and software ready for mass production.

Carrier Certification (Planning)

RG530F-EU / RG530F-NA

TBD

Regulatory Certification (Planning)

RG530F-EU / RG530F-NA

TBD

RG500L Series Specifications



44.0 mm × 41.0 mm × 2.75 mm
5G Sub-6 GHz LGA Module

■ UMTS/LTE/5G Multi-Mode Module

Variant		RG500L-EU	RG500L-NA (Preliminary)
5G NR	5G NR	3GPP Release 15 NSA/SA operation, Sub-6 GHz	3GPP Release 15 NSA/SA operation, Sub-6 GHz
	NSA Bands	n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n77/n78	n2/n5/n7/n12/n25/n41/n38/n48/n66/n71/n77/n78
	SA Bands	n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n77/n78	n2/n5/n7/n12/n25/n41/n38/n48/n66/n71/n77/n78
	DL 4 × 4 MIMO	n1/n3/n7/n38/n40/n41/n77/n78	n2/n7/n25/n41/n38/n48/n66/n77/n78
	UL 2 × 2 MIMO	n40*/n41/n77/n78	n41/n48*/n77/n78
LTE	LTE Category	Cat 19	Cat 19
	LTE Bands	B1/B3/B5/B7/B8/B20/B28/B32/B38/B40/B41/B42/B43	B2/B4/B5/B7/B12/B13/B17/B14/B25/B26/B29/B30/B38/B41/B42/B43/B46/B48/B66/B71
	DL 4 × 4 MIMO	B1/B3/B7/B38/B40/B41/B42/B43	B2/B4/B7/B25/B30/B38/B41/B42/B43/B48/B66
UMTS	WCDMA Bands	B1/B5/B8	B2/B4/B5
Embedded GNSS		Supported	Supported
PCIe 3.0 Interface		Supported	Supported
USB 3.0 Interface		Supported	Supported
SGMII Interface		Supported	Supported
Region		EMEA/ Oceania/ Brazil	North America
Certification		Carrier: TBD Regulatory: GCF ^{TBD} / CE/ RCM	Carrier: TBD Regulatory: GCF ^{TBD} / FCC ^{TBD} / IC ^{TBD} / PTCRB ^{TBD}

RG500L Series Timeline



2021							2022				
Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May

Project Schedule



ES: Engineering samples ready. Basic functions are available for customers' simple demo purpose.

CS: Commercial samples ready. Stable hardware design and quite stable software design. New software features can be added upon request.

MP: Hardware and software ready for mass production.

Carrier Certification

RG500L-EU/ RG500L-NA

TBD

Regulatory Certification

RG500L-EU

CE/ RCM

Completed

GCF

TBD

RG500L-NA

GCF/ FCC/ IC/ PTCRB

TBD

Notes: 1. TBD: To Be Determined.

2. This is the preliminary timeline, and it might be influenced by the chipsets timeline.

RM5xxQ Series Specifications

■ UMTS/LTE/5G Multi-Mode Module



52.0 mm × 30.0 mm × 2.3 mm
5G Sub-6 GHz M.2 Module

Variant		RM500Q-AE	RM502Q-AE	RM505Q-AE	RM500Q-GL	RM510Q-GL
5G NR	5G NR	3GPP Release 15 NSA/SA operation, Sub-6 GHz			3GPP Release 15 NSA/SA operation, Sub-6 GHz	3GPP Release 15 NSA/SA operation, Sub-6 GHz, mmWave
	NSA Bands	n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48/ n66/n71/n77/n78/n79			n41/n77/n78/n79	n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48/n66/n71/n77/n78/n79
	SA Bands	n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48/ n66/n71/n77/n78/n79			n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48*/n66/n71/n77/n78/ n79	n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48/n66/n71/n77/n78/n79
	Sub-6 CA	-	TDD + TDD DL CA*	-	-	TDD + TDD DL CA*
	mmWave Bands	-			-	n257/n258/n260/n261
	DL 4 × 4 MIMO	n1/n2/n3/n7/n25/n38/n40/n41/n48/n66/n77/n78/n79			n1/n2/n3/n7/n25/n38/n40/n41/n48/n66/n77/n78/n79	
	UL 2 × 2 MIMO	n41			n41/n77/n78/n79	n41/n257/n258/n260/n261
LTE	LTE Category	DL Cat 16/ UL Cat 18	DL Cat 20/ UL Cat 18	DL Cat 16/ UL Cat 18	DL Cat 16/ UL Cat 18	DL Cat 20 / UL Cat 18
	LTE Bands	B1/B2/B3/B4/B5/B7/B8/B12(B17)/B13/B14/B18/B19/B20/B25/B26/B28/B29/B30/B32/B34/B38/B39/B40/B41/B42/B43/B46(LAA)/B48/B66/B71			B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B34/B38/B39/B40/B41/B42/B43/B46(LAA)/B48/B66/B71	B1/B2/B3/B4/B5/B7/B8/B12(B17)/B13/B14/B18/B19/B20/B25/B26/B28/B29/B30/B32/B34/B38/B39/B40/B41/B42/B43/B46(LAA)/B48/B66/B71
	DL 4 × 4 MIMO	B1/B2/B3/B4/B7/B25/B30/B32/B34/B38/B39/B40/B41/B42/B43/B48/B66			B1/B2/B3/B4/B7/B25/B30/B32/B34/B38/B39/B40/B41/B42/B43/B48/B66	
UMTS	WCDMA Bands	B1/B2/B3/B4/B5/B6/B8/B19			B1/B2/B3/B4/B5/B6/B8/B19	
Embedded GNSS		Supported	Supported	Supported (Independent GNSS Antenna Port, Active)	Supported	
PCIe 3.0 Interface		Supported			Supported	
USB 3.1 Interface		Supported			Supported	
eSIM		Supported / Built-in eSIM (optional)			Supported / Built-in eSIM (optional)	
Region		Global (except for China)			Global (except for US)	Global
Certification		Carrier: Deutsche Telecom/ AT&T/ T-Mobile*/ Verizon*/ Telstra* Regulatory: GCF/ CE/ PTCRB/ FCC/ IC/ NCC/ JATE/ TELEC/ RCM	Carrier: Deutsche Telecom/ AT&T/ T-Mobile/ Verizon/ Telstra Regulatory: GCF/ CE/ PTCRB/ FCC/ IC/ JATE/ TELEC/ RCM	Carrier: Deutsche Telecom/ AT&T/ T-Mobile*/ Verizon*/ Telstra* Regulatory: GCF/ CE/ PTCRB/ FCC/ IC/ JATE/ TELEC/ RCM	Carrier: Deutsche Telecom/ China Telecom/ China Mobile/ China Unicom/ KT/ SKT/ LGU+ Regulatory: GCF/ CE/ SRRC/ NAL/ CCC/ KC/ RCM	Carrier ^{TBD} : Verizon/ AT&T/ T-Mobile/ Telstra Regulatory: GCF/ CE/ PTCRB/ FCC/ IC/ RCM

RM5xxQ-AE Certification



2021									2022					
Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.

Project Stage

RM500Q-AE/ RM502Q-AE/ RM505Q-AE



Carrier Certification

RM500Q-AE/ RM505Q-AE

Deutsche Telecom/ AT&T

Completed

T-Mobile

Start

Complete (Planned)

Verizon

Telstra

RM502Q-AE

Deutsche Telecom/ Verizon/ AT&T/ T-Mobile/ Telstra

Completed

Regulatory Certification

RM500Q-AE

GCF/ CE/ PTCRB/ FCC/ IC/ NCC/ JATE/ TELEC/ RCM

Completed

RM502Q-AE

GCF/ CE/ PTCRB/ FCC/ IC/ JATE/ TELEC/ RCM

Completed

RM505Q-AE

GCF/ CE/ PTCRB/ FCC/ IC/ JATE/ TELEC/ RCM

Completed

RM5xxQ-GL Certification



Project Stage

RM500Q-GL

MP

RM510Q-GL

MP

Carrier Certification

RM500Q-GL

Deutsche Telekom/ China Telecom/ China Mobile/
China Unicom/ KT/ SKT/ LGU+



RM510Q-GL

Verizon/ AT&T/ T-Mobile/ Telstra

TBD

Regulatory Certification

RM500Q-GL

GCF/ CE/ RCM/ SRRC/ NAL/ CCC/ KC



RM510Q-GL

GCF/ CE/ PTCRB/ FCC/ IC/ RCM



RM520N-GL/RM530N-GL Specifications (Preliminary)



52.0 mm × 30.0 mm × 2.3 mm

RM520N-GL: 5G Sub-6 GHz M.2 Module

RM530N-GL: 5G Sub-6 GHz + mmWave M.2 Module

■ UMTS/LTE/5G Multi-Mode Module

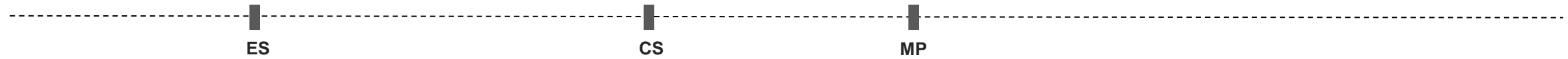
Variant		RM520N-GL (Preliminary)	RM530N-GL (Draft)
5G NR	5G NR	3GPP Release 16 NSA/SA operation, Sub-6 GHz	3GPP Release 16 NSA/SA operation, Sub-6 GHz, mmWave
	NSA Bands	n1/n2/n3/n5/n7/n8/n12/n13/n14/n18/n20/n25/n26/n28/n29/n30/n38/n40/n41/n48/n66/n70/n71/n75/n76/n77/n78/n79	n1/n2/n3/n5/n7/n8/n12/n13/n14/n18/n20/n25/n26/n28/n29/n30/n38/n40/n41/n48/n66/n70/n71/n75/n76/n77/n78/n79
	SA Bands	n1/n2/n3/n5/n7/n8/n12/n13/n14/n18/n20/n25/n26/n28/n29/n30/n38/n40/n41/n48/n66/n70/n71/n75/n76/n77/n78/n79	n1/n2/n3/n5/n7/n8/n12/n13/n14/n18/n20/n25/n26/n28/n29/n30/n38/n40/n41/n48/n66/n70/n71/n75/n76/n77/n78/n79
	Sub-6 CA	FDD + FDD, TDD + TDD, FDD + TDD 2CA	FDD + FDD, TDD + TDD, FDD + TDD 2CA
	mmWave Bands	-	n257/n258/n260/n261
	DL 4 × 4 MIMO	n1/n2/n3/n7/n25/n30/n38/n40/n41/n48/n66/n77/n78/n79	n1/n2/n3/n7/n25/n38/n41/n48/n66/n77/n78/n79
	UL 2 × 2 MIMO	n38/n41/n48/n77/n78/n79	n38/n41/n48/n77/n78/n79/n257/n258/n259/n260/n261
LTE	LTE Category	DL Cat 19/ UL Cat 18	DL Cat 19 / UL Cat 18
	LTE Bands	B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B34/B38/B39/B40/B41/B42/B43/B46(LAA)/B48/B66/B71	B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B34/B38/B39/B40/B41/B42/B43/B46(LAA)/B48/B66/B71
	DL 4 × 4 MIMO	B1/B2/B3/B4/B7/B25/B30/B38/B40/B41/ B42/B43/B48/B66	B1/B2/B3/B4/B7/B25/B30/B38/B40/B41/ B42/B43/B48/B66
UMTS	WCDMA Bands	B1/B2/B4/B5/B8/B19	B1/B2/B4/B5/B8/B19
Embedded GNSS		Supported	Supported
PCIe 4.0 Interface		Supported	Supported
USB 3.1 Interface		Supported	Supported
eSIM		Supported / Built-in eSIM (optional)	Supported / Built-in eSIM (optional)
Region		Global	Global
Certification		Carrier: TBD Regulatory: GCF*/ PTCRB*/ CE*/ RCM*/ IC*/ FCC*/ JATE*/ TELEC*	Carrier: TBD Regulatory: GCF*/ PTCRB*/ CE*/ RCM*/ IC*/ FCC*/ JATE*/ TELEC*

RM520N-GL Timeline (Preliminary)



2021			2022								
Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.

Project Schedule



ES: Engineering samples ready. Basic functions are available for customers' simple demo purpose.

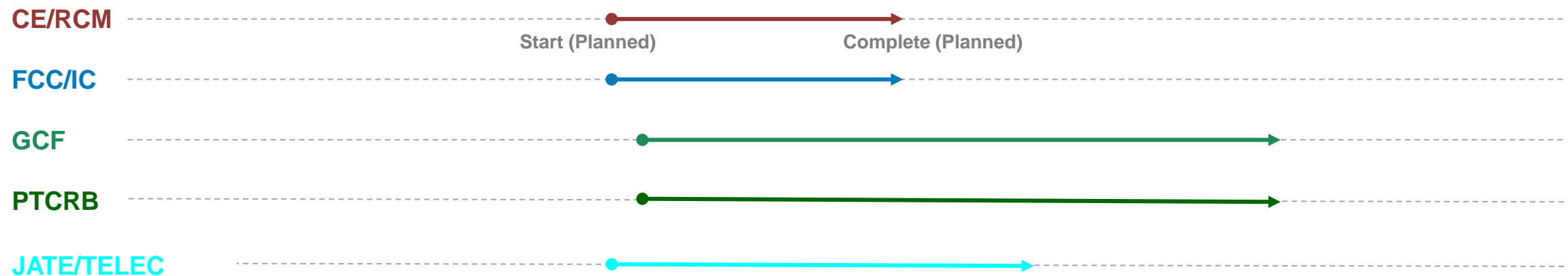
CS: Commercial samples ready. Stable hardware design and quite stable software design. New software features can be added upon request.

MP: Hardware and software ready for mass production.

Carrier Certification

TBD

Regulatory Certification (Planning)



Note: This is the preliminary timeline, and it might be influenced by the Qualcomm chipsets timeline.

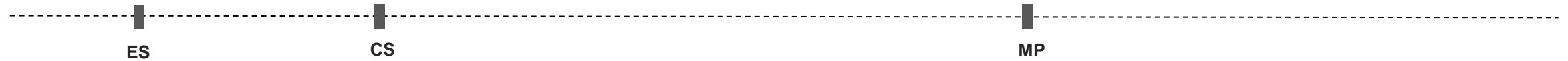
RM530N-GL Timeline (Preliminary)



2022

Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
------	------	------	------	-----	------	------	------	------	------	------	------

Project Schedule



ES: Engineering samples ready. Basic functions are available for customers' simple demo purpose.

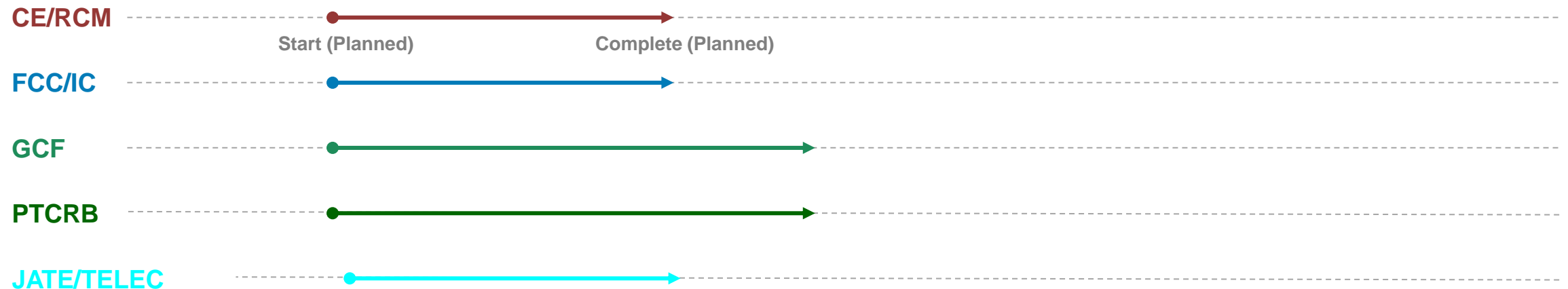
CS: Commercial samples ready. Stable hardware design and quite stable software design. New software features can be added upon request.

MP: Hardware and software ready for mass production.

Carrier Certification

TBD

Regulatory Certification



Notes: 1. This is the preliminary timeline, and it might be influenced by the Qualcomm chipsets timeline.

2. TBD: To Be Determined.

5G Product Key Features & Status



Product	Form Factor	5G NR Bandwidth (Max.)	LTE Category	Cellular Antenna	RGMII / SGMII Interface	Embedded GNSS	Region	Status
RG500Q-EA	LGA	Sub-6 GHz, 100 M	16	6 + 2 (n79)	RGMII	Supported (L1 + L5)	EMEA/ APAC	MP
RG502Q-EA	LGA	Sub-6 GHz, 200M	20	6 + 2 (n79)	RGMII	Supported (L1 + L5)	EMEA/ APAC	MP
RG502Q-EU	LGA	Sub-6 GHz, 200M	20	4 + 2 (optional)	RGMII	Supported (L1 + L5)	EMEA/ Oceania/ Brazil	MP
RG501Q-EU	LGA	Sub-6 GHz, 100M	20	4 + 2 (optional)	RGMII	Supported (L1 + L5)	EMEA/ Oceania/ Brazil	MP
RG500Q-EU	LGA	Sub-6 GHz, 100M	16	4 + 2 (optional)	RGMII	Supported (L1 + L5)	EMEA/ Oceania/ Brazil	MP
RG502Q-GT	LGA	Sub-6 GHz, 200M	20	4	RGMII	-	Global TDD 3.5 GHz Network	MP
RG500L-EU	LGA	Sub-6 GHz, 200M	19	8	SGMII	Supported (L1 + L5)	EMEA/ Oceania/ Brazil	MP
RG520N-EU	LGA	Sub-6 GHz, 120M	19	4 + 2 (optional)	-	Supported (L1 + L5)	EMEA/ Oceania/ Brazil	ES
RG520N-NA	LGA	Sub-6 GHz, 120M	19	4	-	Supported (L1 + L5)	North America	ES
RG520F-EU	LGA	Sub-6 GHz, 200M	20	4 + 2 (optional)	-	Supported (L1 + L5)	EMEA/ Oceania/ Brazil	Developing
RG520F-NA	LGA	Sub-6 GHz, 200M	20	4	-	Supported (L1 + L5)	North America	Developing
RG530F-NA	LGA	Sub-6 GHz, 300M mmWave, 1000M	20	8 Sub-6 GHz + mmWave	-	Supported (L1 + L5)	North America	Developing
RM500Q-GL	M.2	Sub-6 GHz, 100M	16	4	-	Supported (L1)	Global (except for US)	MP
RM500Q-AE	M.2	Sub-6 GHz, 100M	16	4	-	Supported (L1)	Global (except for China)	MP
RM505Q-AE	M.2	Sub-6 GHz, 100M	16	4	-	Supported (L1 + L5)	Global (except for China)	MP
RM502Q-AE	M.2	Sub-6 GHz, 200M	20	4	-	Supported (L1)	Global (except for China)	MP
RM510Q-GL	M.2	Sub-6 GHz, 200M mmWave, 800M	20	4 Sub-6 GHz + mmWave	-	Supported (L1)	Global	MP
RM520N-GL	M.2	Sub-6 GHz, 120M	19	4	-	Supported (L1 + L5)	Global	ES
RM530N-GL	M.2	Sub-6 GHz, 120M mmWave, 400M	19	4 Sub-6 GHz + mmWave	-	Supported (L1 + L5)	Global	Developing



5G & LTE-Advanced Roadmap

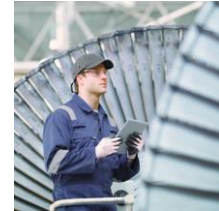
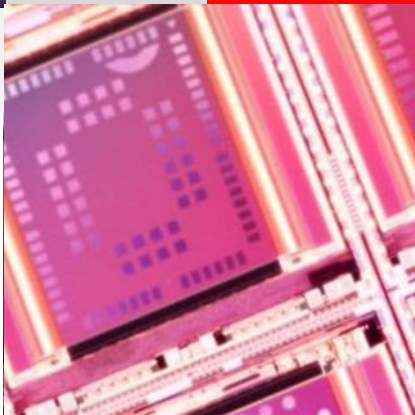
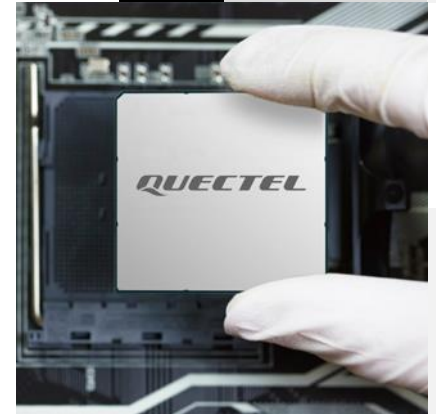
5G Product Overview

5G QuecOpen[®]

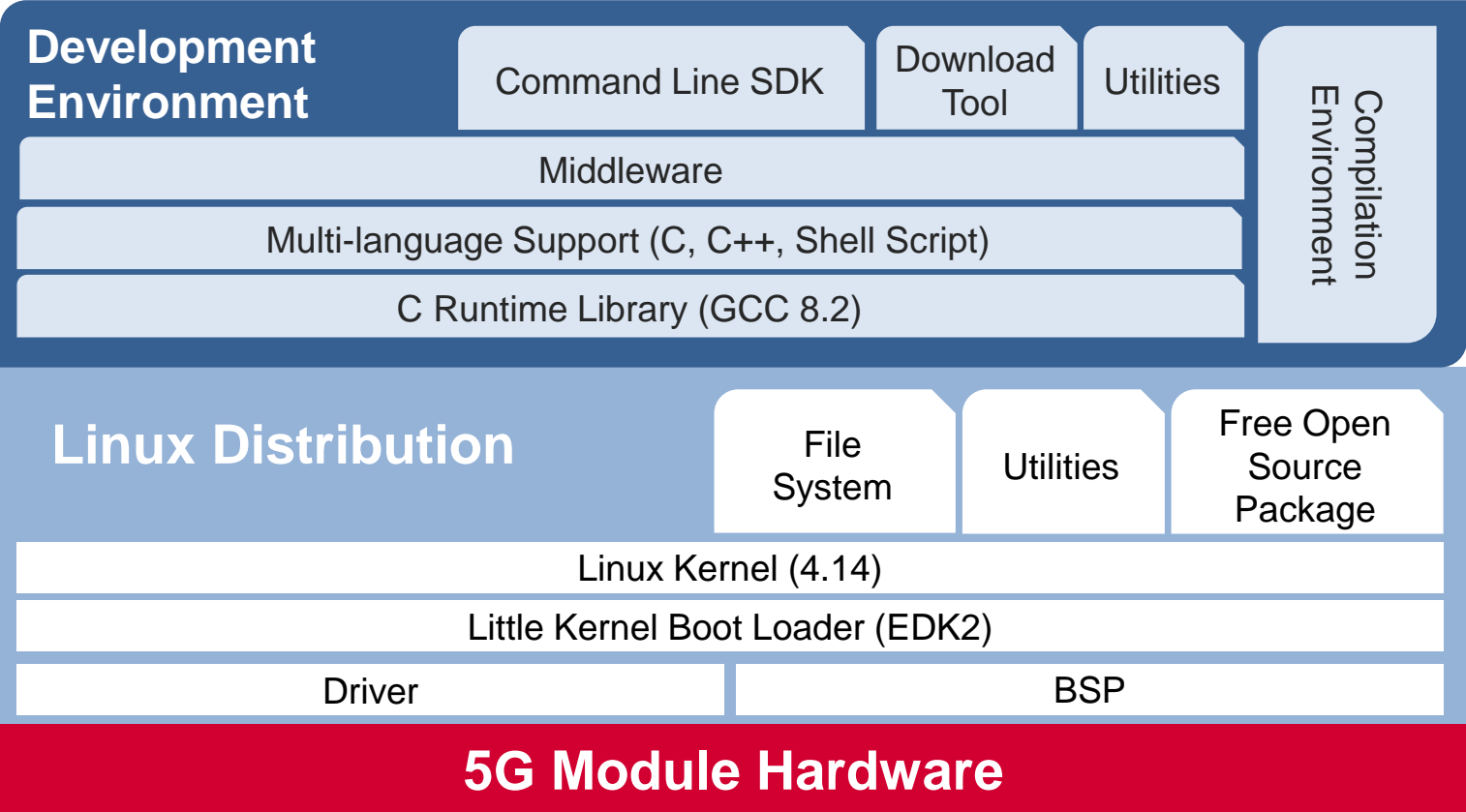
LTE-A Product Overview

Technical Details

Application Fields



Build a Smarter World

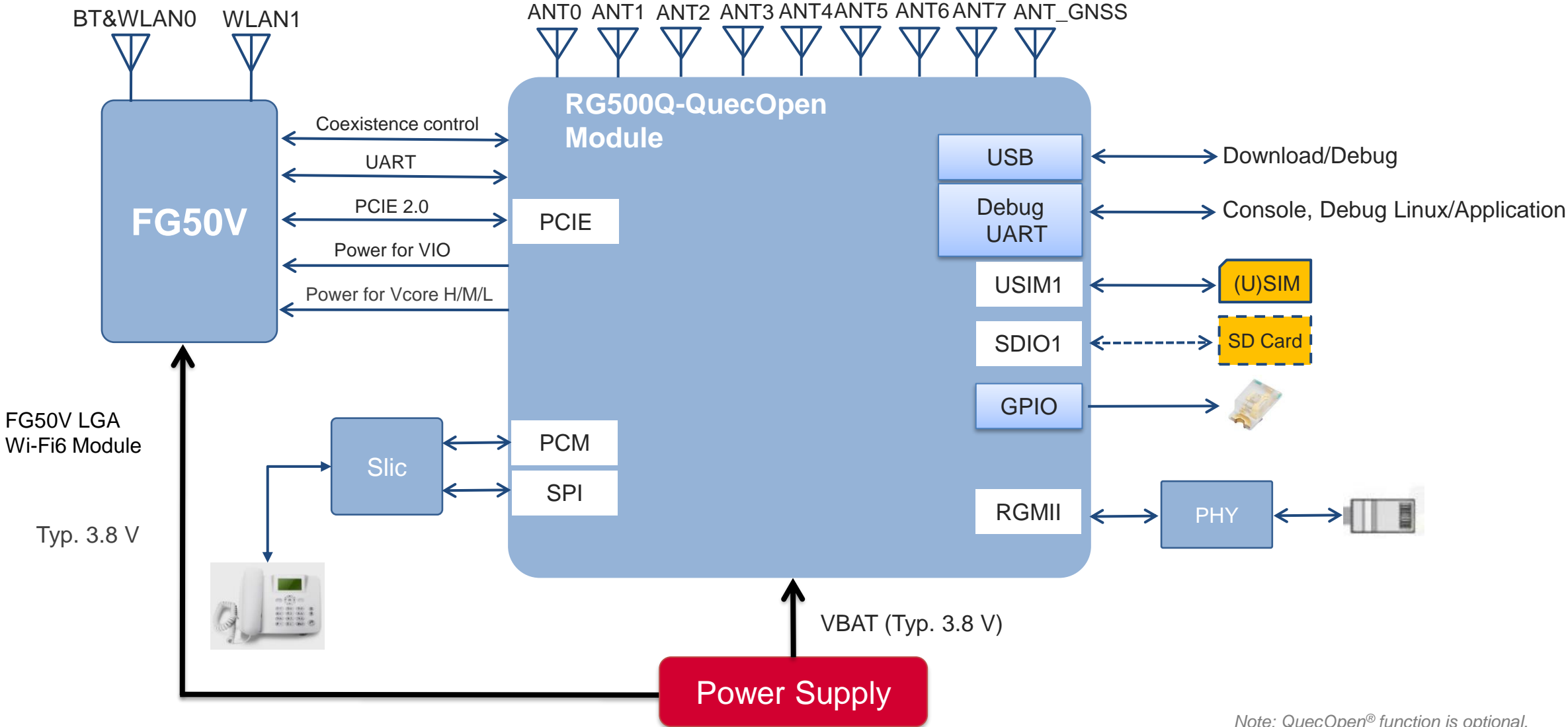


QuecOpen[®] is an open source embedded development platform based on Linux system, which is intended to simplify the design and development process for IoT applications.

Figure: Framework of QuecOpen[®]

Note: QuecOpen[®] function is optional.

QuecOpen® - Typical Router Solution



Note: QuecOpen® function is optional.



5G & LTE-Advanced Roadmap

5G Product Overview

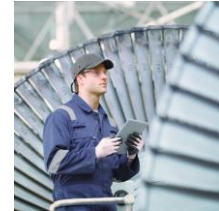
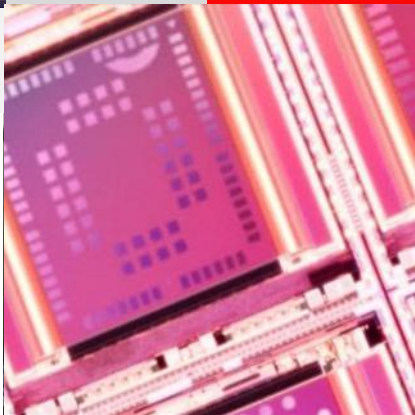
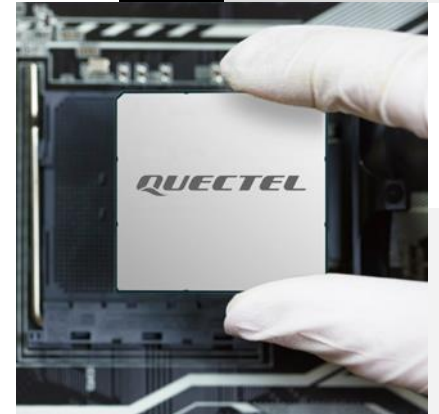
5G QuecOpen[®]

LTE-A Product Overview

Technical Details

Application Fields

Build a Smarter World



LTE-A Module Overview



Cat 6



EG060K Series

- LGA Form Factor
- Variant:
 - EA Commercial Sample
 - NA Planning
 - LA Planning




EG065K Series

- LGA Form Factor
- Variant:
 - NA Commercial Sample
 - EA Planning




EG06 Series

- LGA Form Factor
- Variants:
 - E/ -EA/ -A/ -AUTL




EG060V-EA

- LGA Form Factor
- Variants:
 - EA



EP06 Series


- Mini PCIe Form Factor
- Variants:
 - E/ -A



EM060K Series

- M.2 Form Factor
- Variants:
 - GL Under Development


Q4/21



EM06 Series


- M.2 Form Factor
- Variants:
 - E/ -A/ -J

Cat 12




EG12 Series

- LGA Form Factor
- Variants:
 - GT/ -EA




EG512R-EA

- LGA Form Factor
- Variant:
 - EA




EM12-G

- M.2 Form Factor
- Variant:
 - G




EM12xR-GL

- M.2 Form Factor
- Variant:
 - EM120R-GL
 - EM121R-GL Engineering Sample



EG120K Series

- LGA Form Factor
- Variant:
 - EA Engineering Sample
 - NA Planning
 - LA Planning




EM120K Series

- M.2 Form Factor
- Variant:
 - GL Under Development

Q4/21

Cat 16/ Cat 18



EG18 Series

- LGA Form Factor
- Variants:
 - EA/ -NA



EM160R-GL

- M.2 Form Factor
- Variant:
 - GL

Qx/YY Estimated Engineering Sample Time

EG06 Series Specifications



39.5 mm × 37.0 mm × 2.8 mm
LTE Cat 6, 300M DL/ 50M UL

Multi-Mode LTE-A Module



Variant		EG06-E	EG06-EA	EG06-A	EG06-AUTL
Category		6	6	6	6
LTE	LTE-FDD	B1/B3/B5/B7/B8/B20/B28/B32 ^①	B1/B3/B5/B7/B8/B20/B28/B32 ^①	B2/B4/B5/B7/B12/B13/B25/B26/B29 ^① / B30/B66	B3/B7/B28
	LTE-TDD	B38/B40/B41	B38/B40/B41	-	-
	2CA	B1+B1/B5/B8/B20/B28; B3+B3/B5/B7/B8/B20/B28; B7+B5/B7/B8/B20/B28; B20+B32 ^① ; B38+B38; B40+B40; B41+B41	B1+B1/B3/B5/B7/B8/B20/B28; B3+B3/B5/B7/B8/B20/B28; B7+B5/B7/B8/B20/B28; B20+B32 ^① ; B38+B38; B40+B40; B41+B41	B2+B2/B5/B12/B13/B29 ^① ; B4+B4/B5/B12/B13/B29 ^① ; B7+B5/B7/B12/B26; B25+B5/B12/B25/B26; B30+B5/B12/B29 ^① ; B66+B5/B12/B13/B29 ^① /B66	B3+B3/B7/B28; B7+B7/B28
UMTS	WCDMA	B1/B3/B5/B8	B1/B3/B5/B8	B2/B4/B5	-
Embedded GNSS		Supported	Supported	Supported	Supported
VoLTE (Voice over LTE)		Supported	Supported	Supported	Supported
USB 2.0 Interface		Supported	Supported	Supported	Supported
Region		EMEA/ APAC ^② / Brazil	EMEA/ APAC ^② / Brazil	North America	Australia
Certification		Carrier: Deutsche Telekom/ British Telecom/ Telstra Regulatory: GCF/ CE/ KC/ RCM	Carrier: TBD Regulatory: CE/ RCM	Carrier: Verizon/ AT&T/ U.S. Cellular Regulatory: GCF/ FCC/ PTCRB/ IC	Carrier: Telstra Regulatory: GCF/ RCM

- Notes: 1. TBD: To Be Determined.
2. ^① LTE-FDD B29 and B32 support receiving only, and are only for secondary component carrier in 2CA.
3. ^② Excluding Japan and China Mobile.

EG06 Series Certification



Project Stage

EG06-A 	EG06-EA 	EG06-E 	EG06-AUTL 
--	--	--	---

Carrier Certification

EG06-A Verizon/ AT&T/ U.S. Cellular 	EG06-EA TBD	EG06-E Deutsche Telekom/ British Telecom/ Telstra 	EG06-AUTL Telstra 
--	-----------------------	---	--

Regulatory Certification

EG06-A GCF/ FCC/ PTCRB/ IC 	EG06-EA CE/ RCM 	EG06-E GCF/ CE/ KC/ RCM 	EG06-AUTL GCF/ RCM 
---	---	--	---

EG060K Series Specifications (Preliminary)



39.5 mm × 37.0 mm × 2.80 mm
LTE Cat 6, 300M DL/ 50M UL

LTE-A Module

Variant		EG060K-EA	EG060K-NA (Planning)	EG060K-LA (Planning)
Category		6	6	6
LTE	LTE-FDD	B1/B3/B5/B7/B8/B20/B28/B32	B2/B4/B5/B7/B12/B13/B14/B25/B26/B29/B30/B66/B71	B2/B4/B5/B7/B8/B28/B66
	LTE-TDD	B38/B40/B41	B41/B48	B42(Optional) /B43(Optional)
	2CA	B1+B1/B3/B5/B7/B8/B20/B28/B38/B40/B41 B3+B3/B5/B7/B8/B20/B28/B38/B40/B41 B7+B5/B7/B8/B20/B28 B20+B32 B20+B38/B40 B38+B38 B40+B40 B41+B41	TBD	TBD
UMTS	WCDMA	B1/B3/B5/B8	-	B2/B4/B5/B8
Embedded GNSS		Supported	Supported	Supported
VoLTE (Voice over LTE)		Supported	Supported	Supported
USB 2.0/3.0 Interface		Supported	Supported	Supported
Region		EMEA/ APAC/ Brazil	North America	Latin America
Certification		Carrier: TBD Regulatory: CE*/ RCM*	Carrier: TBD Regulatory: FCC*	Carrier: TBD Regulatory: TBD

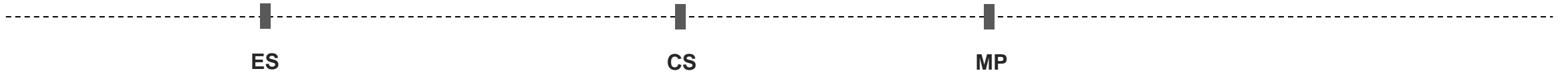
Note: 1. “*”: Under development/ In progress.
2. TBD: To Be Determined.

EG060K-EA Timeline (Preliminary)



2021							2022							
Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.

Project Schedule



ES: Engineering samples ready. Basic functions are available for customers' simple demo purpose.

CS: Commercial samples ready. Stable hardware design and quite stable software design. New software features can be added upon request.

MP: Hardware and software ready for mass production.

Carrier Certification

TBD

Regulatory Certification

CE/ RCM



EG065K Series Specifications (Preliminary)

■ LTE-A Module



28.0 mm × 31.0 mm × 2.40 mm
LTE Cat 6, 300M DL/ 50M UL

Variant		EG065K-NA	EG065K-EA (Planning)
Category ^①		6	6
LTE	LTE-FDD	B2/B4/B5/B7/B12/B13/B14/B25/B26/B30/B66	B1/B2/B3/B4/B5/B7/B8/B20/B28
	LTE-TDD	-	B40
	2CA	B2+B4/5/12/13/14/66 B4+B5/12/13 B5+B5/30/66 B12+B66 B7+B5/B12 B25+B5/12/25/26 B30+B5/12/14 B66+B5/12/13 66A-66A, 66B, 66C	TBD
UMTS	WCDMA	-	B1/B3/B5/B8
Embedded GNSS		-	-
VoLTE (Voice over LTE)		-	-
USB 2.0/3.0 Interface		Supported ^②	Supported ^②
Region		North America	Europe/ Latin America
Certification		Carrier: AT&T*/ Verizon*/ Telus* Regulatory: GCF*/ FCC*/ IC*/ PTCRB*/ IFETEL*	Carrier: TBD Regulatory: GCF*/ CE*/ RCM*

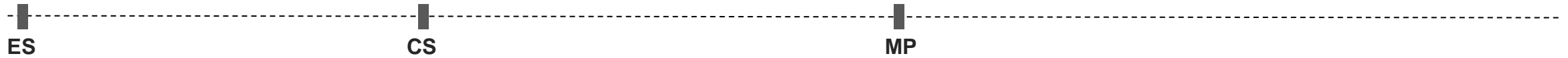
- Notes: 1. "***": Under development/ In progress.
2. TBD: To Be Determined.
3. ①: Optional DL Cat 13 400M, UL Cat 13 150M.
4. ②: EG065K Series USB 3.0 is under development.

EG065K-NA Timeline (Preliminary)



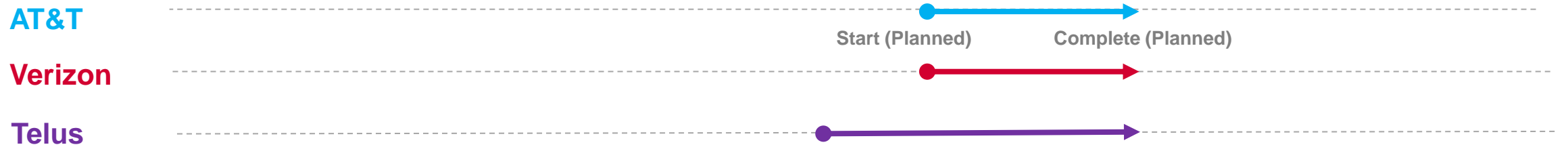
2021							2022							
Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.

Project Schedule

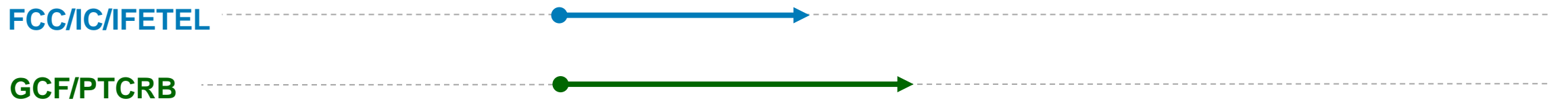


ES: Engineering samples ready. Basic functions are available for customers' simple demo purpose.
 CS: Commercial samples ready. Stable hardware design and quite stable software design. New software features can be added upon request.
 MP: Hardware and software ready for mass production.

Carrier Certification



Regulatory Certification



Notes: This is the preliminary timeline, and it might be influenced by the Qualcomm chipsets timeline.

EG060V-EA Specifications



39.5 mm × 37.0 mm × 3.05 mm
LTE Cat 6, 300M DL/ 50M UL

LTE-A Module

Variant		EG060V-EA
Category		6
LTE	LTE-FDD	B1/B3/B5/B7/B8/B20/B28
	LTE-TDD	B38/B40/B41
	2CA ^②	B1+B1/B3/B5/B8/B20/B28; B3+B3/B5/B7/B8 ^① /B20/B28; B7+B5/B7/B8/B20/B28; B38+B38; B40+B40; B41+B41
UMTS	WCDMA	B1/B5/B8
Embedded GNSS		-
VoLTE (Voice over LTE)		Supported
USB 2.0 Interface		Supported
Region		EMEA/ APAC ^③ / Brazil
Certification		Carrier: TBD Regulatory: CE/ NCC/ RCM

- Notes: 1. “*”: Under development/ In progress. TBD: To Be Determined.
2. ^① For CA-3A-8A, “B3 (PCC) + B8 (SCC)” is supported, while “B8 (PCC) + B3 (SCC)” is not.
3. ^② 2CA supports continuous intra-band CA, but not non-continuous intra-band CA.
4. ^③ Excluding Japan and China Mobile.

EG060V-EA Certification



Project Stage

EG060V-EA

MP

MP: Hardware and software ready for mass production.

Carrier Certification

TBD

Regulatory Certification

CE/ NCC/ RCM

Completed



EP06 Series Specifications



50.95 mm × 30.0 mm × 3.95 mm
LTE Cat 6, 300M DL/ 50M UL

Multi-Mode LTE-A Module

Variant		EP06-E	EP06-A
Category		6	6
LTE	LTE-FDD	B1/B3/B5/B7/B8/B20/B28/B32 ^①	B2/B4/B5/B7/B12/B13/B25/B26/B29 ^① /B30/B66
	LTE-TDD	B38/B40/B41	-
	2CA	B1+B1/B5/B8/B20/B28; B3+B3/B5/B7/B8/B20/B28; B7+B5/B7/B8/B20/B28; B20+B32 ^① ; B38+B38; B40+B40; B41+B41	B2+B2/B5/B12/B13/B29 ^① ; B4+B4/B5/B12/B13/B29 ^① ; B7+B5/B7/B12/B26; B25+B5/B12/B25/B26; B30+B5/B12/B29 ^① ; B66+B5/B12/B13/B29 ^① /B66
UMTS	WCDMA	B1/B3/B5/B8	B2/B4/B5
Embedded GNSS		Supported	Supported
USB 2.0 Interface		Supported	Supported
Region		EMEA/ APAC ^② / Brazil	North America
Certification		Carrier: Telstra/ Deutsche Telekom Regulatory: GCF/ CE/ NCC/ RCM/ ICASA	Carrier: Verizon/ AT&T/ Sprint/ Rogers/ Bell ^{TBD} / Telus Regulatory: GCF/ FCC/ PTCRB/ IC

Notes: 1. TBD: To Be Determined.

2. ^① LTE-FDD B29 and B32 support receiving only, and are only for secondary component carrier in 2CA.


3. ^② Excluding Japan and China Mobile.

EP06 Series Certification



Project Stage

EP06-E 

EP06-A 

Carrier Certification

EP06-E

Deutsche Telecom/ Telstra



EP06-A

Verizon/ AT&T/ Sprint/ Rogers/ Telus



Regulatory Certification

EP06-E

GCF/ CE/ NCC/ RCM/ ICASA



EP06-A

GCF/ FCC/ PTCRB/ IC



EM06 Series Specifications



42.0 mm × 30.0 mm × 2.3 mm
LTE Cat 6, 300M DL/ 50M UL

■ Multi-Mode LTE-A Module


Variant		EM06-E	EM06-A	EM06-J
Category		6	6	6
LTE	LTE-FDD	B1/B3/B5/B7/B8/B20/B28/B32 ^①	B2/B4/B5/B7/B12/B13/B25/B26/B29 ^① / B30/ B66	B1/B3/B8/B18/B19/B26/B28
	LTE-TDD	B38/B40/B41	B41	B41
	2CA	B1+B1/B5/B8/B20/B28; B3+B3/B5/B7/B8/B20/B28; B7+B5/B7/B8/B20/B28; B20+B32 ^① ; B38+B38; B40+B40; B41+B41	B2+B2/B5/B12/B13/B29 ^① ; B4+B4/B5/B12/B13/B29 ^① ; B5+B5/B7/B25/B30/B66; B7+B7/B12/B26; B12+B12/B25/B30/B66; B13+B66; B25+B25/B26; B30+B29 ^① ; B66+B29 ^① /B66; B41+B41	B1+B1/B8/B18/B19/B26/B28; B3+B3/B8/B18/B19/B26/B28; B41+B41
UMTS	WCDMA	B1/B3/B5/B8	B2/B4/B5	B1/B3/B6/B8/B19
Embedded GNSS		Supported	Supported	Supported
eSIM		Supported	Supported	Supported
USB 2.0 Interface		Supported	Supported	Supported
Region		EMEA/ APAC ^② / Brazil	North America	Japan
Certification		Carrier: Deutsche Telekom/ KT/ SKT/ Telstra Regulatory: GCF/ CE/ NCC/ RCM/ ICASA/ KC Others: WHQL	Carrier: Verizon/ AT&T/ T-Mobile/ Sprint Regulatory: GCF/ FCC/ PTCRB/ IC Others: WHQL	Carrier: KDDI Regulatory: JATE/ TELEC Others: WHQL


Notes: 1. ^① LTE-FDD B29 and B32 support receiving only, and are only for secondary component carrier in 2CA.
2. ^② Excluding Japan and China Mobile.

EM06 Series Certification



Project Stage

EM06-A 

EM06-E 

EM06-J 

Carrier Certification

EM06-A

Verizon/ AT&T/ T-Mobile/ Sprint



EM06-E

Deutsche Telekom/ KT/ SKT/ Telstra



EM06-J

KDDI



Regulatory Certification

EM06-A

GCF/ FCC/ PTCRB/ IC



EM06-E

GCF/ CE/ KC/ NCC/ RCM/ ICASA



EM06-J

JATE/ TELEC



Others

EM06-A

WHQL

EM06-E

WHQL

EM06-J

WHQL

EM060K-GL Specifications (Preliminary)



42.0 mm × 30.0 mm × 2.3 mm
LTE Cat 6, 300M DL/ 50M UL

■ Multi-Mode LTE-A Module

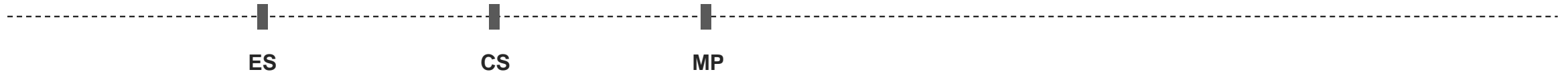
Variant		EM060K-GL (Preliminary)
Category		6
LTE	LTE-FDD	B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29 ^① /B30/B32 ^① /B66/B71
	LTE-TDD	B34/B38/B39/B40/B41/B42/B43/B46(LAA)/B48(CBRS)
	DL 2CA	Intra-band and Inter-band
UMTS	WCDMA	B1/B2/B3/B4/B5/B6/B8/B19
Embedded GNSS		Supported
USB 2.0 Interface		Supported
PCIe Interface		Optional (RC Mode)
USB 3.0 Interface		Supported
eSIM		Supported / Built-in eSIM (optional)
Region		Global
Certification		Carrier: TBD Regulatory: GCF*/PTCRB*/CE*/RCM*/FCC*/IC*/CCC* Others: WHQL

EM060K-GL Timeline (Preliminary)



2021			2022											
Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.

Project Schedule



ES: Engineering samples ready. Basic functions are available for customers' simple demo purpose.

CS: Commercial samples ready. Stable hardware design and quite stable software design. New software features can be added upon request.

MP: Hardware and software ready for mass production.

Carrier Certification

TBD

Regulatory Certification

FCC/IC



CE/RCM



PTCRB



EM12-G Specifications



42.0 mm × 30.0 mm × 2.3 mm
LTE Cat 12, 600M DL/ 150M UL

■ Multi-Mode LTE-A Module

Variant		EM12-G
Category		DL/UL: 12/13
LTE	LTE-FDD	B1/B2/B3/B4/B5/B7/B8/B9/B12/B13/B14/B17/B18/B19/B20/B21/B25/B26/B28/B29 ^① /B30/B32 ^① /B66
	LTE-TDD	B38/B39/B40/B41
	DL 2CA	B1+B3/B5/B18/B19/B20/B21/B26; B2+B2/B4/B5/B12/B13/B17/B29 ^① /B30/B66; B3+B3/B5/B7/B8/B19/B20/B28; B4+B4/B5/B12/B13/B17/B29 ^① /B30; B5+B7/B25/B30/B66; B7+B7/B20/B28; B12+B25/B30; B13+B66; B20+B32 ^① ; B25+B25/B26/B41; B29+B30; B38+B38; B40+B40; B41+B41; B66+B66
	DL 3CA	DL inter-band 3CA: B1+B3+B7; B1+B3+B19; B1+B3+B20; B1+B19+B21; B2+B4+B5; B2+B4+B13; B2+B5+B30; B2+B12+B30; B2+B29+B30; B3+B7+B20; B3+B7+B28; B4+B5+B30; B4+B12+B30; B4+B29+B30; B5+B66+B2; B13+B66+B2 DL 2 contiguous plus inter-band 3CA: B2+B2+B5; B2+B2+B13; B3+B3+B7; B3+B7+B7; B3+B3+B20; B4+B4+B5; B4+B4+B13; B5+B66+B66; B13+B66+B66; B66+B66+B2; B66+B66+B66
	DL 256QAM	Supported
	UL 2CA	B3+B3; B41+B41
	UL 64QAM	Supported
UMTS	WCDMA	B1/B2/B3/B4/B5/B8/B19
Embedded GNSS		Supported
PCIe Interface		Optional (RC Mode)
USB 3.0 Interface		Supported
Region		Global
Certification		Carrier: Vodafone/ TIM/ Deutsche Telekom/ British Telecom/ Telefónica/ Verizon/ AT&T/ T-Mobile/ Sprint/ Rogers/ Telus/ NTT DOCOMO/ SoftBank/ KDDI/ Telstra Regulatory: GCF/ CE/ FCC/ PTCRB/ IC/ Anatel/ CCC/ KC/ NCC/ JATE/ TELEC/ RCM/ ICASA Others: WHQL

Note: ^① LTE-FDD B29 and B32 support receiving only, and are only for secondary component carrier in 2CA.

EM12-G Certification



Project Stage

EM12-G

MP

Carrier Certification

Vodafone/ TIM/ Deutsche Telekom/ British Telecom/ Telefónica/ Verizon/ AT&T/ T-Mobile/ Sprint/ Rogers/ Telus/ NTT DOCOMO/ SoftBank/ KDDI/ Telstra



Regulatory/Other Certification

GCF/ CE/ FCC/ PTCRB/ IC/ Anatel/ CCC/ KC/ NCC/ JATE/ TELEC/ RCM/ ICASA/ WHQL



EG12 Series Specifications



39.5 mm × 37.0 mm × 2.8 mm
LTE Cat 12, 600M DL/ 150M UL

■ Multi-Mode LTE-A Module

Variant		EG12-GT	EG12-EA
Category		12	12
LTE	LTE-FDD	-	B1/B3/B5/B7/B8/B20/B28
	LTE-TDD	B42/B43/B48	B38/B40/B41
	DL 2CA	B42+B42; B48+B48	Intra-band and Inter-band
	DL 3CA	B42+B42+B42; B48+B48+B48	Intra-band and Inter-band
	DL 256QAM	Supported	Supported
	DL 4 × 4 MIMO	B42/B48	B1/B3/B7
	UL 2CA	B42+B42	Intra-band contiguous
UMTS	WCDMA	-	B1/B3/B5/B8
Embedded GNSS		Supported	Supported
PCIe Interface		Optional (RC Mode)	Optional (RC Mode)
USB 3.0 Interface		Supported	Supported
Region		Global TDD 3.5 GHz Network	EMEA/ APAC ^① / Brazil
Certification		Regulatory: FCC	Regulatory: GCF/ CE/ RCM

Note: ^① Excluding Japan and China Mobile.

EG12 Series Certification



Project Stage

EG12-GT 

EG12-EA 

Regulatory Certification

EG12-GT

FCC

Completed



EG12-EA

GCF/ CE/ RCM

Completed



EG120K-EA Specifications (Preliminary)



39.5 mm × 37.0 mm × 2.80 mm
LTE Cat 12, 600M DL/ 150M UL

■ LTE-A Module

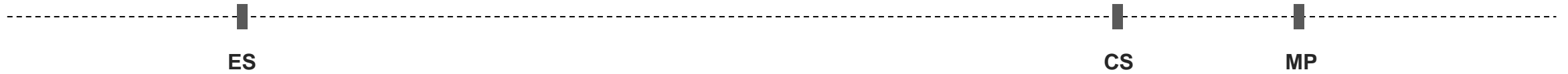
Variant		EG120K-EA (Preliminary)	EG120K-NA (Planning)	EG120K-LA (Planning)
Category		12	12	12
LTE	LTE-FDD	B1/B3/B5/B7/B8/B20/B28/B32	B2/B4/B5/B7/B12/B13/B14/B17/B25/B26/B29/ B30/B66/B71	B2/B4/B5/B7/B8/B28/B66
	LTE-TDD	B38/B40/B41/B42(Optional)/B43(Optional)	B41/B48	B42(Optional) /B43(Optional)
	CA	DL 3CA; UL 2CA	DL 3CA; UL 2CA	DL 3CA; UL 2CA
	DL 4 × 4 MIMO	LTE-FDD: B1/B3/B7 LTE-TDD: B38/B40/B41/B42	TBD	TBD
UMTS	WCDMA	B1/B3/B5/B8	-	-
Embedded GNSS		Supported	Supported	Supported
VoLTE (Voice over LTE)		Supported	Supported	Supported
USB 2.0/3.0 Interface		Supported	Supported	Supported
Region		EMEA/ APAC/ Brazil	North America	Latin America
Certification		Carrier: TBD Regulatory: CE*/ RCM*	Carrier: TBD Regulatory: FCC*	TBD

EG120K-EA Timeline (Preliminary)



2021						2022					
Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.

Project Schedule



ES: Engineering samples ready. Basic functions are available for customers' simple demo purpose.

CS: Commercial samples ready. Stable hardware design and quite stable software design. New software features can be added upon request.

MP: Hardware and software ready for mass production.

Carrier Certification

TBD

Regulatory Certification

CE/ RCM



EG18 Series Specifications



39.5 mm × 37.0 mm × 2.8 mm
LTE Cat 18, 1.2G DL/ 150M UL

■ Multi-Mode LTE-A Pro Module

Variant		EG18-EA	EG18-NA
Category		DL/UL: 18/13	DL/UL: 18/13
LTE	LTE-FDD	B1/B3/B5/B7/B8/B20/B28	B2/B4/B5/B7/B12/B13/B14/B25/B26/B29/B30/B66/B71
	LTE-TDD	B38/B40/B41	B41
	DL 2CA	Intra-band and Inter-band	Intra-band and Inter-band
	DL 3CA	Intra-band and Inter-band	Intra-band and Inter-band
	DL 4CA	Intra-band and Inter-band	Intra-band and Inter-band
	DL 5CA	Intra-band and Inter-band within 4 bands	Intra-band and Inter-band within 4 bands
	DL 4 × 4 MIMO	B1/B3/B7	B2/B4/B7/B25/B66
	DL 256QAM	Supported	Supported
	UL 2CA	Intra-band contiguous	Intra-band contiguous
	UL 64QAM	Supported	Supported
UMTS	WCDMA	B1/B3/B5/B8	B2/B4/B5
Embedded GNSS		Supported	Supported
PCIe Interface		Optional (RC Mode)	Optional (RC Mode)
USB 3.0 Interface		Supported	Supported
Region		EMEA/ APAC ^① / Brazil	North America
Certification		Carrier: Telstra Regulatory: GCF/ CE/ RCM	Carrier: Verizon/ AT&T/ T-Mobile/ U.S. Cellular Regulatory: GCF/ FCC/ PTCRB/ IC

EG18 Series Certification



Project Stage

EG18-EA 

EG18-NA 

Carrier Certification

EG18-EA

Telstra



EG18-NA

Verizon/ AT&T/ T-Mobile/ U.S. Cellular



Regulatory Certification

EG18-EA

GCF/ CE/ RCM



EG18-NA

FCC/ IC/ GCF/ PTCRB



EG512R-EA Specifications



42.0 mm × 38.0 mm × 2.65 mm
LTE Cat 12, 600M DL/ 90M UL

■ Multi-Mode LTE-A Pro Module

Variant		EG512R-EA
Category		DL/UL: 12 /13
LTE	LTE-FDD	B1/B3/B5/B7/B8/B20/B28/B32
	LTE-TDD	B38/B41/B42/B43
	DL 2CA	Intra-band and Inter-band
	DL 3CA	Intra-band and Inter-band
	DL 4 × 4 MIMO	B1/B3/B7/B32/B38/B41/B42/B43
	DL 256QAM	Supported
	UL 2CA	Intra-band contiguous
	UL 64QAM	Supported
UMTS	WCDMA	B1/B3/B5/B8
Embedded GNSS		Supported
PCIe Interface		Supported
RGMII Interface		Supported
USB 3.0 Interface		Supported
eSIM		Supported / Built-in eSIM (optional)
Region		EMEA/ Australia/ Brazil
Certification		Regulatory: GCF/ CE/ RCM Carrier: TBD

EG512R-EA Timeline



Project Stage

EG512R-EA 

MP: Hardware and software ready for mass production.

Regulatory Certification

GCF/ CE/ RCM

Completed



EM12xR-GL Specifications



42.0 mm × 30.0 mm × 2.3 mm
LTE Cat 12, 600 Mbps DL/150 Mbps UL

■ Multi-Mode LTE-A Pro Module

Variant		EM120R-GL	EM121R-GL (Preliminary)
Category		DL/UL: 12 /13	DL/UL: 12 /13
LTE	LTE-FDD	B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/ B30/B32/B66	B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29 / B30/B32/B66
	LTE-TDD	B38/B39/B40/B41/B42/B43/B46(LAA)/B48(CBRS)	B38/B39/B40/B41/B42/B43/B46(LAA)/B48(CBRS)
	DL 2CA	Intra-band and Inter-band	Intra-band and Inter-band
	DL 3CA	Intra-band and Inter-band	Intra-band and Inter-band
	DL 256QAM	Supported	Supported
	UL 2CA	Intra-band	Intra-band
	UL 64QAM	Supported	Supported
UMTS	WCDMA	B1/B2/B3/B4/B5/B6/B8/B19	B1/B2/B3/B4/B5/B6/B8/B19
Embedded GNSS		Supported/ L1 (Passive Antenna)	Supported/ L1 + L5 (Active Antenna)
PCIe Interface		Supported	Supported
USB 3.0 Interface		Supported	Supported
eSIM		Supported / Built-in eSIM (optional)	Supported / Built-in eSIM (optional)
Region		Global	Global
Certification		Carrier: Vodafone/ British Telecom/ Verizon/ AT&T/ T-Mobile/ Sprint/ China Mobile/ China Unicom/ NTT DOCOMO/ SoftBank ^① / KDDI/ Rakuten/ Telstra ^{TBD} / Swisscom Regulatory: GCF/ CE/ FCC/ PTCRB/ IC/ Anatel/ IFETEL/ SRRC/ NAL/ CCC/ KC/ NCC/ JATE/ TELEC/ RCM/ ICASA	Carrier: AT&T/ Verizon Regulatory: GCF/ CE/ FCC/ PTCRB/ IC/ RCM

Notes: 1. “*”: Under development/ In progress.

2. TBD: To Be Determined

3. ①: Currently, SoftBank certification is only supported for PC applications.

EM12xR-GL Certification



2021						2022						
Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.

Project Schedule



ES: Engineering samples ready. Basic functions are available for customers' simple demo purpose.

CS: Commercial samples ready. Stable hardware design and quite stable software design. New software features can be added upon request.

MP: Hardware and software ready for mass production.

Carrier Certification

EM120R-GL

Vodafone/ British Telecom/ AT&T/ T-Mobile/ Sprint/ Verizon/ China Mobile/ China Unicom/
 NTT DOCOMO/ SoftBank^①/ KDDI/ Rakuten/ Swisscom
 Telstra

Completed

TBD

EM121R-GL

Verizon/ AT&T

Completed

Regulatory Certification

EM120R-GL

GCF/ CE/ PTCRB/ FCC/ IC/Anatel/ IFETEL/ SRRC/ NAL/ CCC/ KC/ NCC/ JATE/ TELEC/ RCM/ ICASA

Completed

EM121R-GL

GCF/ CE/ PTCRB/ FCC/ IC/ RCM

Completed

EM120K-GL Specifications (Preliminary)



42.0 mm × 30.0 mm × 2.3 mm
LTE Cat 12, 600M DL/ 50M UL

■ Multi-Mode LTE-A Module

Variant		EM120K-GL (Preliminary)
Category		12
LTE	LTE-FDD	B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29 ^① /B30/B32 ^① /B66/B71
	LTE-TDD	B34/B38/B39/B40/B41/B42/B43/B46(LAA)/B48(CBRS)
	DL 2CA	Intra-band and Inter-band
UMTS	WCDMA	B1/B2/B3/B4/B5/B6/B8/B19
Embedded GNSS		Supported
USB 2.0 Interface		Supported
PCIe Interface		Optional (RC Mode)
USB 3.0 Interface		Supported
eSIM		Supported / Built-in eSIM (optional)
Region		Global
Certification		Carrier: TBD Regulatory: GCF*/PTCRB*/CE*/RCM*/FCC*/IC*/CCC* Others: WHQL

EM120K-GL Timeline (Preliminary)



2021			2022											
Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.

Project Schedule



ES: Engineering samples ready. Basic functions are available for customers' simple demo purpose.

CS: Commercial samples ready. Stable hardware design and quite stable software design. New software features can be added upon request.

MP: Hardware and software ready for mass production.

Carrier Certification

TBD

Regulatory Certification

FCC/IC



CE/RCM



PTCRB



EM160R-GL Specifications



■ Multi-Mode LTE-A Pro Module

42.0 mm × 30.0 mm × 2.3 mm
LTE Cat 16, 1.0 Gbps DL/150 Mbps UL

Variant		EM160R-GL
Category		DL/UL: 16 /13
LTE	LTE-FDD	B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66
	LTE-TDD	B38/B39/B40/B41/B42/B43/B46(LAA)/B48(CBRS)
	DL 2CA	Intra-band and Inter-band
	DL 3CA	Intra-band and Inter-band
	DL 4CA	Intra-band and Inter-band
	DL 5CA	Intra-band and Inter-band within 4 bands
	DL 4 × 4 MIMO	B1/B2/B3/B4/B7/B25/B30/B32/B66/B38/B39/B40/B41
	DL 256QAM	Supported
	UL 2CA	Intra-band
	UL 64QAM	Supported
UMTS	WCDMA	B1/B2/B3/B4/B5/B6/B8/B19
Embedded GNSS		Supported
PCIe Interface		Supported
USB 3.0 Interface		Supported
eSIM		Supported / Built-in eSIM (optional)
Region		Global
Certification		Carrier: Vodafone/ British Telecom/ Verizon/ AT&T/ T-Mobile/ Sprint/ China Mobile/ China Unicom/ NTT DOCOMO/ SoftBank ^① / KDDI/ Rakuten/ Telstra ^{TBD} / Swisscom Regulatory: GCF/ CE/ FCC/ PTCRB/ IC/ Anatel/ IFETEL/ SRRC/ NAL/ CCC/ KC/ NCC/ JATE/ TELEC/ RCM/ ICASA

Notes: 1. TBD: To Be Determined

2. ①: Currently, SoftBank certification is only supported for PC applications.

EM160R-GL Certification



Project Schedule

EM160R-GL



MP: Hardware and software ready for mass production.

Carrier Certification

Vodafone/ British Telecom/ AT&T/ T-Mobile/ Sprint/ Verizon/ China Mobile/ China Unicom/
NTT DOCOMO/ SoftBank^①/ KDDI/ Rakuten/ Swisscom



Regulatory Certification

GCF/ CE/ PTCRB/ FCC/ IC/Anatel/ IFETEL/ SRRC/ NAL/ CCC/ KC/ NCC/ JATE/ TELEC/ RCM/ ICASA



- Notes: 1. TBD: To Be Determined
2. ①: Currently, SoftBank certification is only supported for PC applications.

LTE-A/LTE-A Pro Product Key Features & Status



Product	Category	WCDMA	USB 2.0/3.0 Interface	PCIe Interface	Embedded GNSS	Region	Status
EG06-E ^②	6	Supported	Supported	-	Supported	EMEA/ APAC ^① / Brazil	MP
EG06-A ^②	6	Supported	Supported	-	Supported	North America	MP
EG06-AUTL ^②	6	-	Supported	-	Supported	Australia	MP
EG06-EA ^②	6	Supported	Supported	-	Supported	EMEA/ APAC ^① / Brazil	MP
EG060V-EA ^②	6	Supported	Supported	-	-	EMEA/ APAC ^① / Brazil	MP
EG060K-EA	6	Supported	Supported	Optional	Supported	EMEA/ APAC ^① / Brazil	CS
EG065K-NA ^②	6	-	Supported	-	-	North America	CS
EP06-E ^②	6	Supported	Supported	-	Supported	EMEA/ APAC ^① / Brazil	MP
EP06-A ^②	6	Supported	Supported	-	Supported	North America	MP
EM06-E ^②	6	Supported	Supported	-	Supported	EMEA/ APAC ^① / Brazil	MP
EM06-J ^②	6	Supported	Supported	-	Supported	Japan	MP
EM06-A ^②	6	Supported	Supported	-	Supported	North America	MP
EM060K-GL	6	Supported	Supported	Optional (RC Mode)	Supported	Global	Pre-ES
EM12-G	12	Supported	Supported	Optional (RC Mode)	Supported	Global	MP
EG12-GT	12	-	Supported	Optional (RC Mode)	Supported	Global TDD 3.5 GHz	MP
EG12-EA	12	Supported	Supported	Optional (RC Mode)	Supported	EMEA/ APAC ^① / Brazil	MP
EG120K-EA	12	Supported	Supported	Optional	Supported	EMEA/ APAC ^① / Brazil	ES
EG18-EA	18	Supported	Supported	Optional (RC Mode)	Supported	EMEA/ APAC ^① / Brazil	MP
EG18-NA	18	Supported	Supported	Optional (RC Mode)	Supported	North America	MP
EM120R-GL	12	Supported	Supported	Supported	Supported/ L1 (Passive)	Global	MP
EM121R-GL	12	Supported	Supported	Supported	Supported/ L1 + L5 (Active)	Global	ES
EM120K-GL	12	Supported	Supported	Optional (RC Mode)	Supported	Global	Pre-ES
EM160R-GL	16	Supported	Supported	Supported	Supported	Global	MP
EG512R-EA	12	Supported	Supported	Supported	Supported	EMEA/ APAC ^① / Brazil	MP

Notes: 1. ^① Excluding Japan and China Mobile.

2. ^② EG06/EP06/EM06/EG060V-EA modules only support USB 2.0 specification.



5G & LTE-Advanced Roadmap

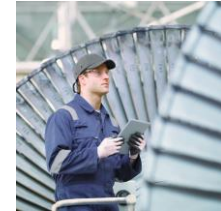
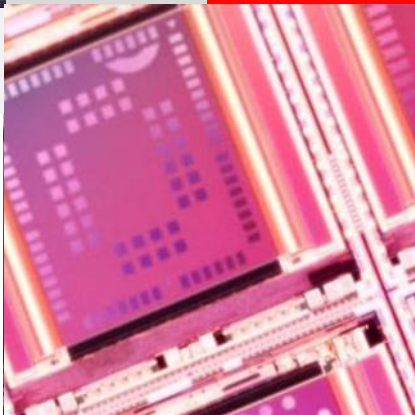
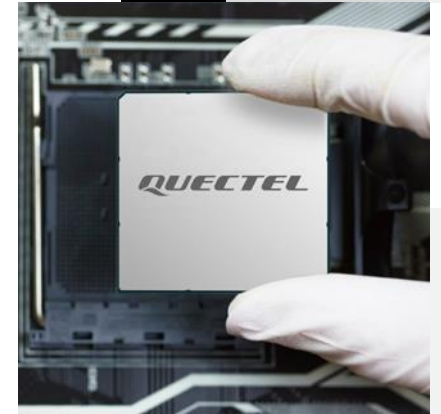
5G Product Overview

5G QuecOpen[®]

LTE-A Product Overview

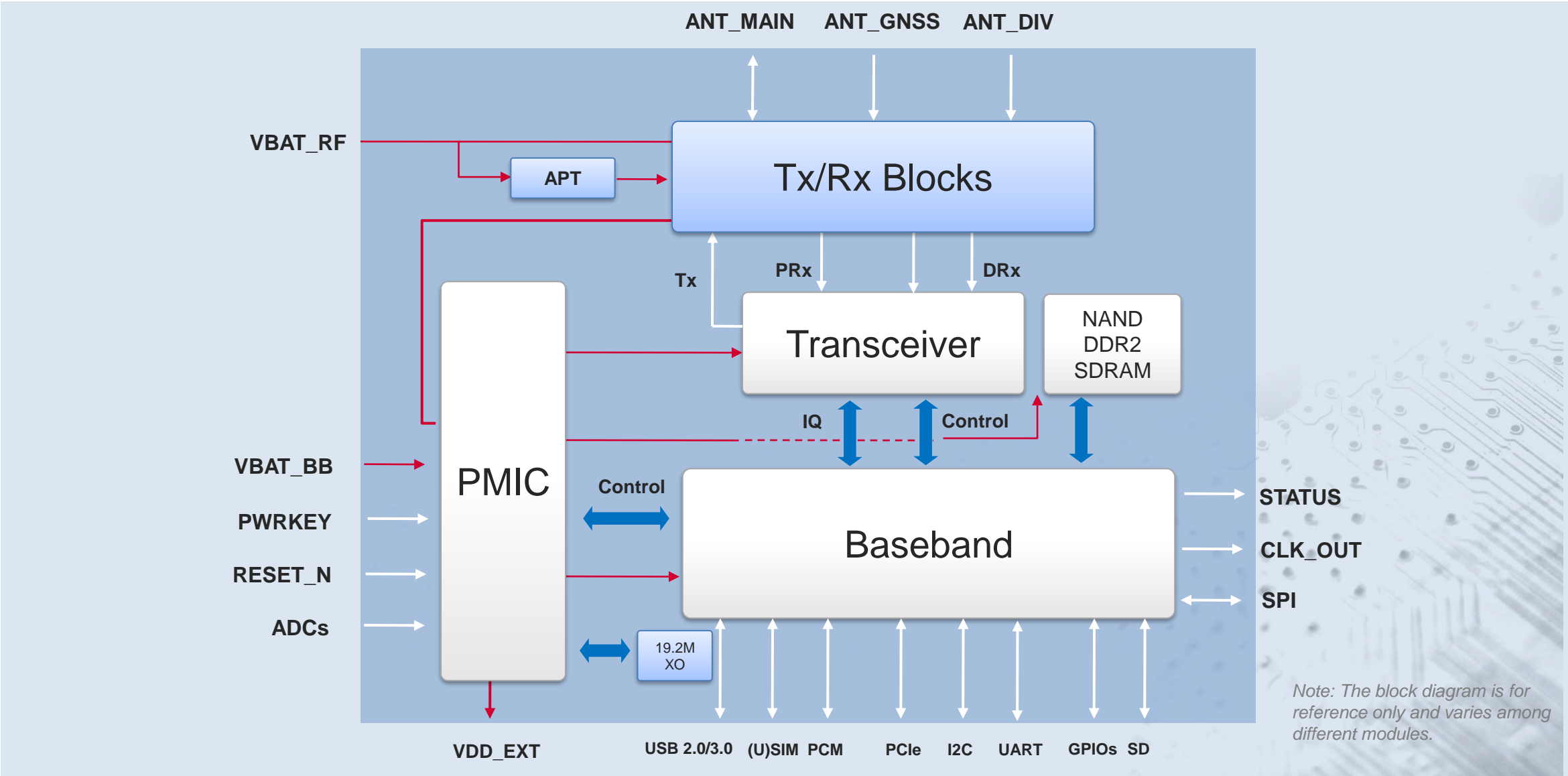
Technical Details

Application Fields



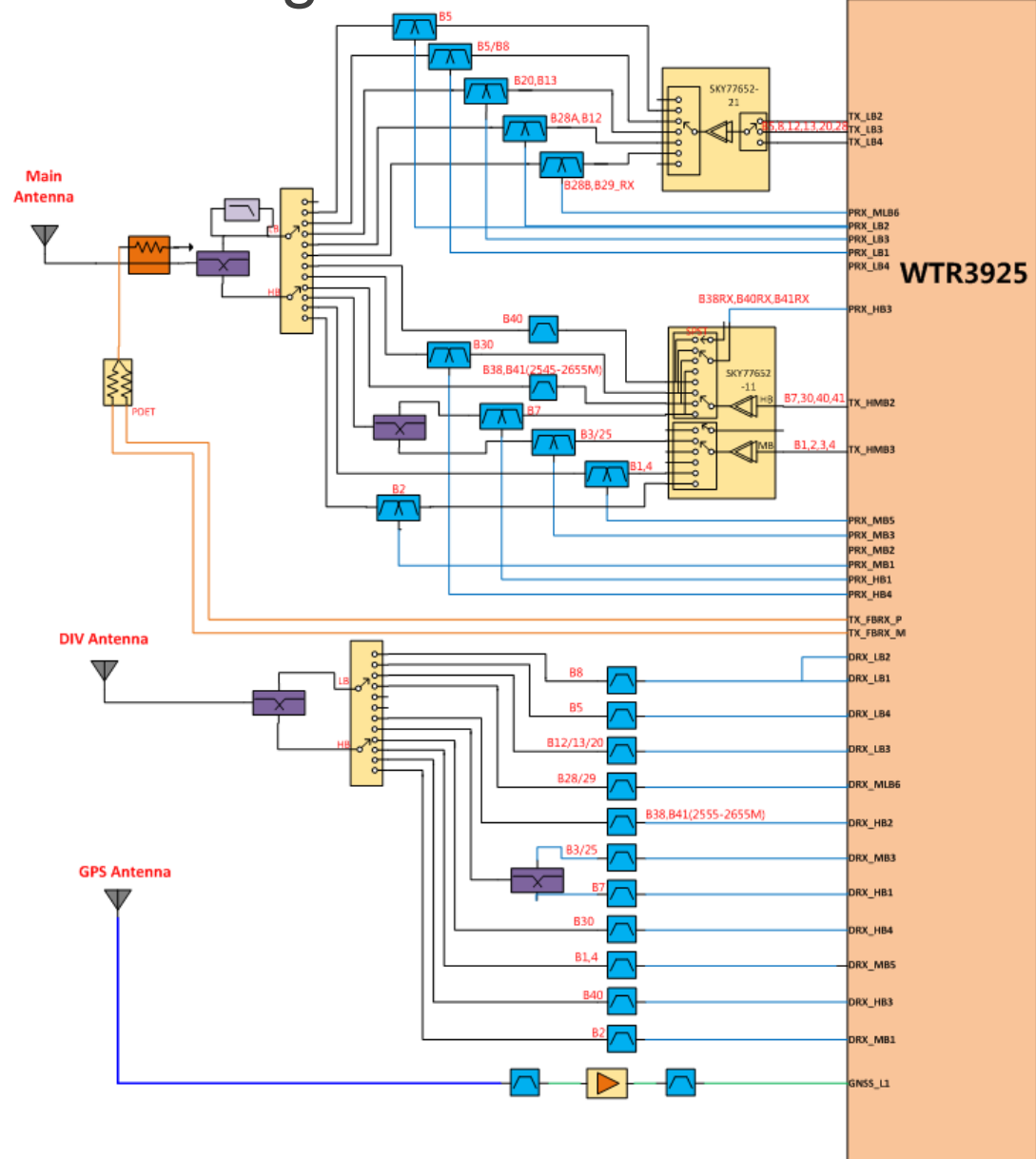
Build a Smarter World

Hardware BB Block Diagram



Note: The block diagram is for reference only and varies among different modules.

Hardware RF Block Diagram



Note: The block diagram is for reference only and varies among different modules.

Software Advantages



USB Serial Drivers

Windows 7/8/8.1/10
Linux 2.6–5.12
Android 4.x–11.x

Quality Guarantee

Reliable network protocols
Steady flash protection mechanism
Superior audio algorithms
High sensitivity



GNSS & RIL & NDIS & MBIM & GobiNet & QMI_WWAN Drivers

GNSS/ RIL Driver: Android 4.x–11.x
NDIS Driver: Windows 7/8/8.1/10
MBIM Driver: Windows 8/8.1/10,
Linux 3.18–5.12
GobiNet Driver: Linux 2.6–5.12
QMI_WWAN Driver: Linux 3.4–5.12



Special Features

Over Temperature &
Voltage Protection



Flexible Applications

eCall
(U)SIM card detection
Voice
DFOTA

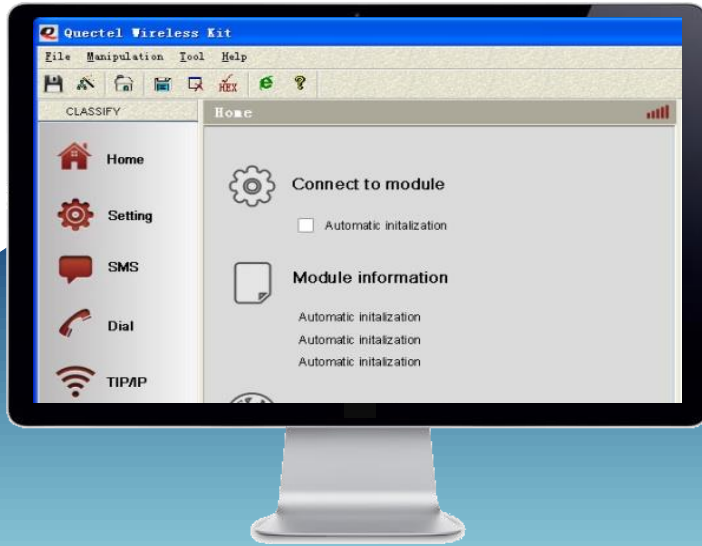
Abundant Protocols

QMI/ TCP/ UDP/ FTP/ HTTP/
NTP/ PING



Support Package

EVB Kits



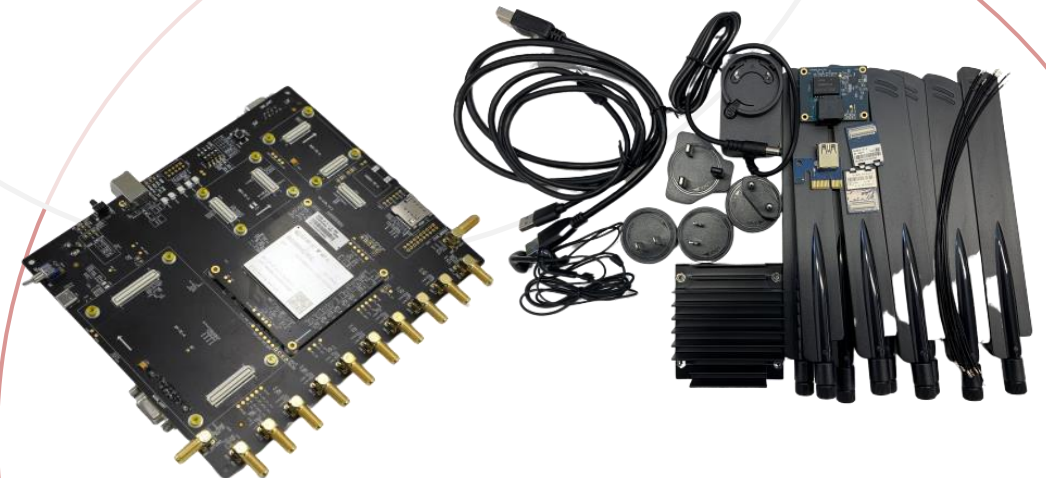
RG5xx EVB kit



RM5xx EVB kit



RM5xx mini EVB kit



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



5G & LTE-Advanced Roadmap

5G Product Overview

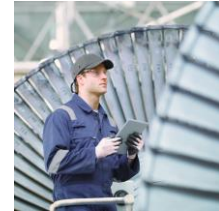
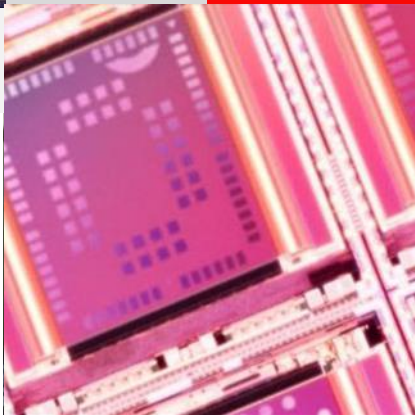
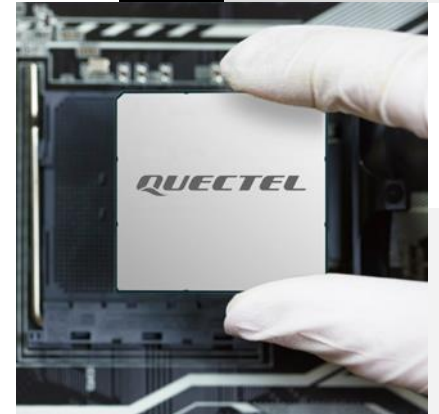
5G QuecOpen[®]

LTE-A Product Overview

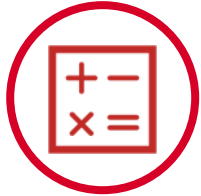
Technical Details

Application Fields

Build a Smarter World

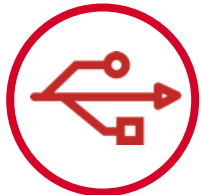


5G Module Advantages



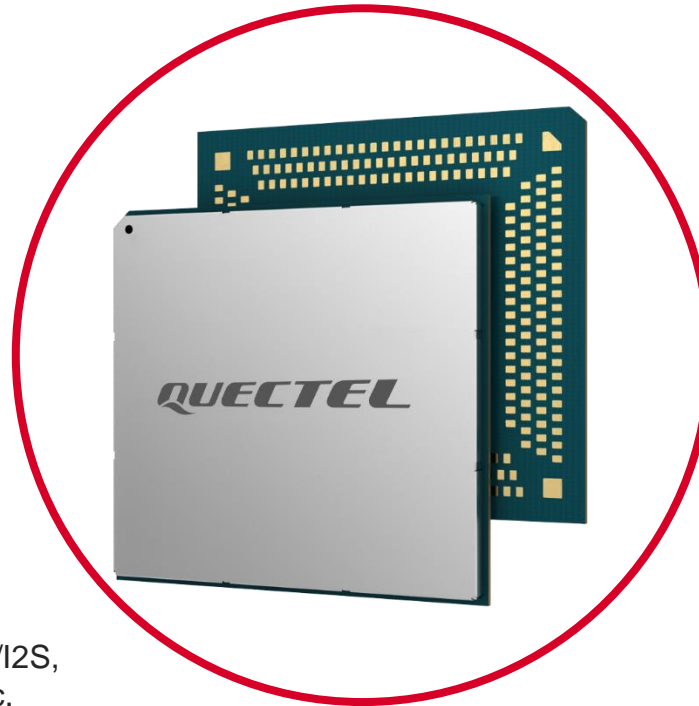
Powerful algorithm for edge computing and storage

- Cortex-A7 up to 1.5 GHz as primary boot processor
- Qualcomm Hexagon DSP processor up to 1.5 GHz
- Supports 1*16 bit LPDDR4X memory at 1.8 GHz



Integrates up to 18 interfaces, suitable for various application scenarios

- Includes USB 3.1, PCIe, RGMII, PCM/I2S, I2C, SPI, GPIO, SDIO, SIM, PWM, etc.
- Supports extended application processors, sensors, memory, Wi-Fi, BT, GNSS, Ethernet



Robust security capabilities

- Secure boot
- Secure file system
- Secure execution environment



5G + X solutions

- 5G + Media & Entertainment (Cameras/TV/STB)
- 5G + Smart Grid
- 5G + Smart Industry
- 5G + Smart Education
- 5G + Smart Cities
- 5G + Smart Finance
- 5G + Smart Medical Services
- 5G + Intelligent Driving

Target Applications



Fixed Wireless Wideband Services

- Home/Enterprise Gateways
- Consumer/Industrial Routers
- CPE
- DTU
- VoIP
- Servers
- Portable MiFi

Mobile Wideband Devices

- Consumer Laptops
- Industrial Laptops
- Notebooks/Tablets
- High-Definition Live Broadcast
- AR/VR
- Delivery Drones

Industrial Automation

- Robots
- AGV
- Industrial Energy
- Edge Computers
- Vehicle-Mounted Terminals





The number one cellular module vendor in the world and a leading GNSS module supplier

- Unbeatable choice from the broadest module portfolio in the world
- The highest quality products for the best possible prices
- Superb support with the largest R&D team in the industry
- Continuous innovation – first to market with 5G, LPWA, CV2X, snapdragon
- A passionate, dedicated team of “Quectelers” ensure our customers always come first

Thank You

Build a Smarter World

Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai 200233, China
Tel: **+86 21 5108 6236** • Email: info@quectel.com
Technical Support: support@quectel.com