SIMCom
a SUNSEA AIOT company

MODULES FOR A
CONNECTED WORLD

SIMCom Wireless Solutions Limited

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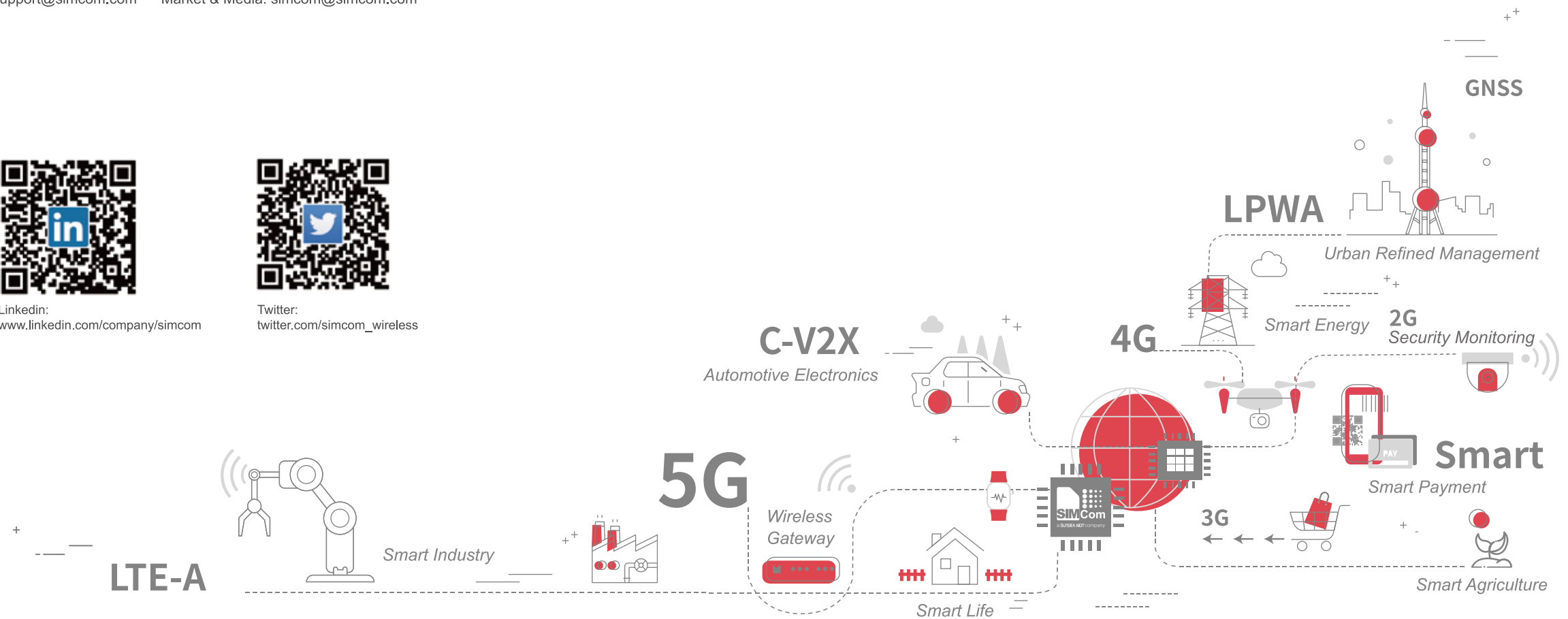
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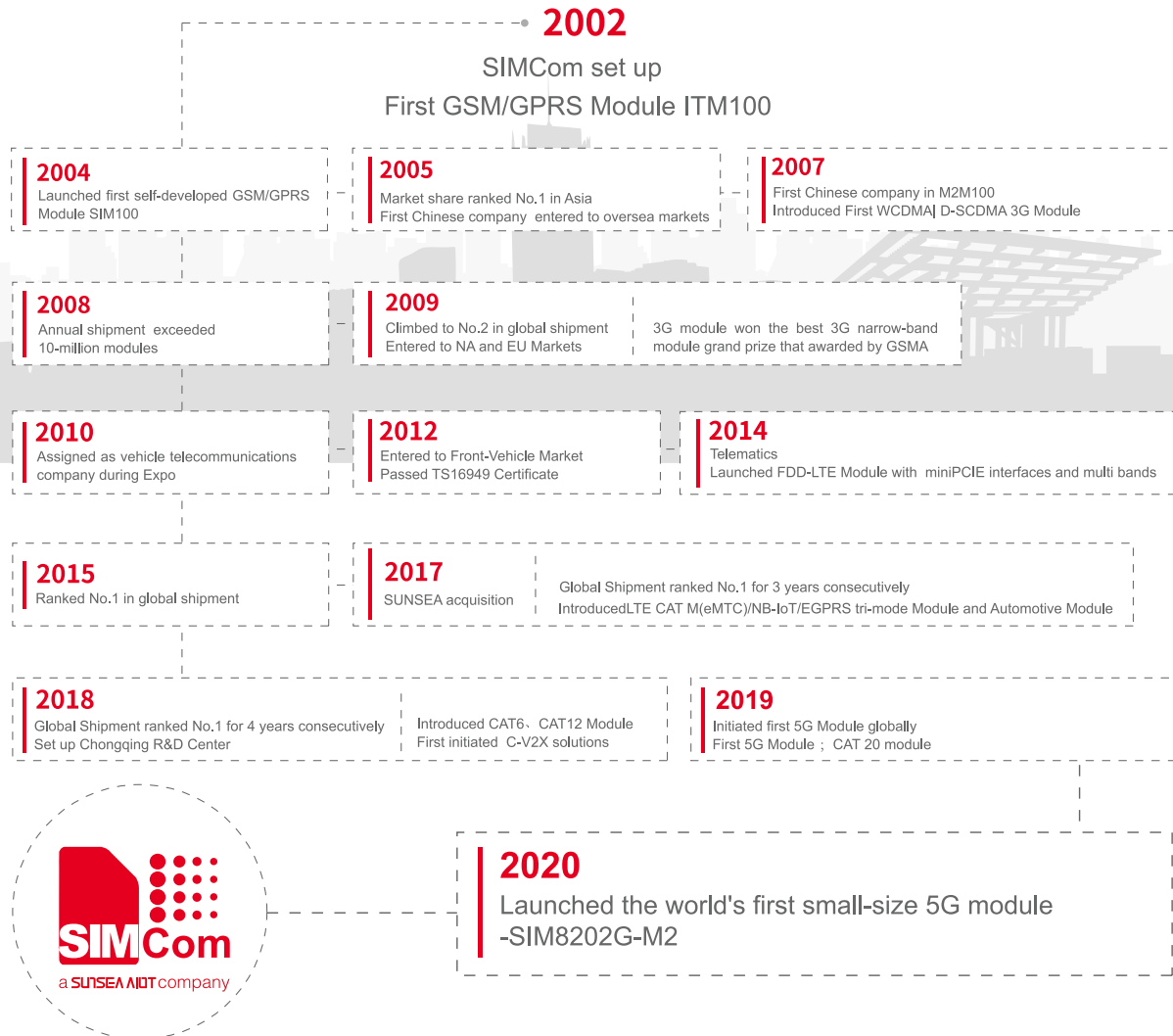Linkedin:
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GNSS

LPWA

Urban Refined Management

C-V2X
Automotive Electronics

4G

Smart Energy

2G
Security Monitoring

5G

Wireless
Gateway

Smart

Smart Payment

3G

LTE-A

Smart Industry

Smart Life

Smart Agriculture

About SIMCom

SIMCom Wireless Solutions Limited, holding subsidiary of SUNSEA AIOT (002313.SZ), is a global leading Machine-to-Machine (M2M) wireless modules and solutions supplier. Since established in 2002, SIMCom has been fully committed to providing a variety of wireless modules and terminal level solutions worldwide, such as 5G, 4G, LTE-M(CAT-M1), NB-IoT, 3G, 2G, and GPS/GLONASS/BEIDOU satellite positioning technology.

SIMCom insists on providing high-quality modules and industry solutions. With 18 years of professional technical innovation and service experiences, it continuously meets the needs of customers in all industries of the Internet of Things. While deepening the vertical industry, we continue to define advantageous products and build core competitiveness. With the Group's continuous investment in research and development, technology and production, we will continue to innovate and enrich our technology roadmap, and promote the development of the industry in the next few years.

2002
SIMCom set up
First GSM/GPRS Module ITM100

2004
Launched first self-developed GSM/GPRS Module SIM100

2005
Market share ranked No.1 in Asia
First Chinese company entered to oversea markets

2007
First Chinese company in M2M100
Introduced First WCDMA| D-SCDMA 3G Module

2008
Annual shipment exceeded 10-million modules

2009
Climbed to No.2 in global shipment
Entered to NA and EU Markets

3G module won the best 3G narrow-band module grand prize that awarded by GSMA

2010
Assigned as vehicle telecommunications company during Expo

2012
Entered to Front-Vehicle Market
Passed TS16949 Certificate

2014
Telematics
Launched FDD-LTE Module with miniPCIE interfaces and multi bands

2015
Ranked No.1 in global shipment

2017
SUNSEA acquisition

Global Shipment ranked No.1 for 3 years consecutively
IntroducedLTE CAT M(eMTC)/NB-IoT/EGPRS tri-mode Module and Automotive Module

2018
Global Shipment ranked No.1 for 4 years consecutively
Set up Chongqing R&D Center

Introduced CAT6、CAT12 Module
First initiated C-V2X solutions

2019
Initiated first 5G Module globally
First 5G Module ；CAT 20 module

2020
Launched the world's first small-size 5G module -SIM8202G-M2

Page 1

5G Module

Technology	5G (Sub 6G)			5G (Sub 6G & mmWave)
Product	SIM8202G-M2	SIM8200EA-M2	SIM8200G	SIM8300G-M2
Picture				
Form Factor	M.2	M.2	LGA	M.2
Dimensions(mm)	30.0*42.0*2.3	30.0*52.0*2.3	41.0*43.6*2.8	30.0*52.0*3.65
Weight(g)	6.8g±0.2	8.3g±0.2	11.17g±0.2	11.76g±0.2
Mode	NSA/SA	NSA/SA	NSA/SA	NSA/SA
Frequency Bands — 5G NR (Sub6G)	n1,n2,n3,n5,n7,n8,n12,n20,n28,n38, n40,n41,n66,n71,n77,n78,n79	n1,n2,n3,n5,n7,n8,n12,n20,n25,n28, n40,n41,n66,n71,n77,n78,n79*	n1,n2,n3,n5,n7,n8,n12,n20,n25,n28, n40,n41,n66,n71,n77,n78,n79	n1,n2,n3,n5,n7,n8,n12,n20,n25,n28, n40,n41,n66,n71,n77,n78,n79
5G NR (mmWave)				n257/n258/n260/261
LTE-FDD	B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/ B17/B18/B19/ B20/B25/B26/B28/B29/ B30/B32/B66/B71	B1/B2/B3/B4/B5/B7/B8/B12/B13/ B14/B17/B18/B19/B20/B25/B26/ B28/B29/B30/B66/B71	B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/ B17/B18/B19/B20/B25/B26/B28/B29/ B30/B66/B71	B1/B2/B3/B4/B5/B7/B8/B12/B13/ B14/B17/B18/B19/B20/B25/B26/ B28/B29/B30/B66/B71
LTE-TDD	B34/B38/B39/B40/B41/B42/B43/B48	B34/B38/B39/B40/B41/B42/B43/B48	B34/B38/B39/B40/B41/B42/B43/B48	B34/B38/B39/B40/B41/B42/B43/ B46/B48
WCDMA	B1/B2/B3/B4/B5/B8	B1/B2/B3/B4/B5/B8	B1/B2/B3/B4/B5/B8	B1/B2/B3/B4/B5/B8
GNSS	GPS/GLONASS/BeiDou (Dedicated GNSS L1 and L5)	GPS/GLONASS/BeiDou (Dedicated GNSS_L1 and L5)	GPS/GLONASS/BeiDou (Dedicated GNSS L1 and L5)	GPS/GLONASS/BeiDou (Dedicated GNSS L1 and L5)
Temperature	-30℃ ~ +70℃	-30℃ ~ +70℃	-30℃ ~ +70℃	-30℃ ~ +70℃
Electrical Features				
Supply Voltge Range	3.135～4.4V	3.135～4.4V	3.3V~ 4.4V	3.135～4.4V
Power Consumption (sleep)(mA)	<5mA	<5mA	<5mA	TBD
Data Transfer				
mmWave				7Gbps(DL)/3Gbps (UL)
Sub-6G	2.4Gbps(DL)/1Gbps (UL)	2.4Gbps(DL)/500Mbps (UL) (optional up to 4Gbps DL)	2.4Gbps(DL)/1Gbps (UL) (optional up to 4Gbps DL)	4Gbps(DL)/1Gbps (UL)
LTE CAT 20+	1Gbps(DL)/200Mbps (UL)	1Gbps(DL)/200Mbps (UL) (optional up to 2Gbps DL)	1Gbps(DL)/200Mbps (UL) (optional up to 2Gbps DL)	2Gbps(DL)/200Mbps (UL)
Software Features				
Protocol	TCP/IP/IPV4/IPV6/Multi-PDP/FTPS/ HTTPS/MQTTS/DNS	TCP/IP/IPV4/IPV6/Multi-PDP/FTPS/ HTTPS/MQTTS/DNS	TCP/IP/IPV4/IPV6/Mult-PDP/FTPS/ HTTPS/MQTTS/DNS	TCP/IP/IPV4/IPV6/Multi-PDP/FTPS/ HTTPS/MQTTS/DNS
TLS	SSL3.0/TLS1.0/TLS1.2	SSL3.0/TLS1.0/TLS1.2	SSL3.0/TLS1.0/TLS1.2	SSL3.0/TLS1.0/TLS1.2
DTMF	● (Sending and Receiving)	● (Sending and Receiving)	● (Sending and Receiving)	● (Sending and Receiving)
FOTA	●	●	●	●
VoLTE/CSFB/VoNR*	●	●	●	
Android RIL	Android 6.0/7.0/8.0/9.0	Android 6.0/7.0/8.0/9.0	Android 6.0/7.0/8.0/9.0	Android 6.0/7.0/8.0/9.0
USB Driver	Microsoft Windows Win7/Win8/ Win10/Linux/Android	Microsoft Windows Win7/Win8/ Win10/Linux/Android	Microsoft Windows Win7/Win8/ Win10/Linux/Android	Microsoft Windows Win7/Win8/ Win10/Linux/Android
RNDIS	Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10
NDIS	Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10
PPP	Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10
MBIM	Win8/Win10	Win8/Win10	Win8/Win10	Win8/Win10
Firmware Upgrade	USB/FOTA	USB/FOTA	USB/FOTA	USB/FOTA
Interface				
USB	3.1 (2.0)	3.1 (2.0)	3.1 (2.0)	3.1 (2.0)
UART	●	●	●	●
(U)SIM Card	1.8V/2.95V	1.8V/2.95V	1.8V/2.95V	1.8V/2.95V
PCM	●	●	●	●
GPIO	●	●	●	●
I2C	●	●	●	●
PCIe	●	●	●	●
SPI			●	
RGMII			●	
SDIO3.0			●	
PMI			●	
ADC			●	
Antenna	*4	*6	*8	*14
Certification				
Certification	RoHS/REACH/CCC/CTA/SRRC/ JATE/Telec/RCM/GCF/CE(RED)*	RoHS/REACH/CCC/CTA/SRRC/ RCM/GCF/CE(RED)*	RoHS/REACH/CCC/CTA/SRRC/ JATE/Telec/RCM/GCF/CE(RED)*	RoHS/REACH/JATE/Telec/GCF/FCC/ PTCRB/IC/CE(RED)*
Typical Applications	CPE,MIFI,PC,Gateway,Router,UAV			

*: Under Development

| LPWA Module

Technology	CAT-M&NB-IoT&GSM		CAT-M & NB-IoT	
Product	**SIM7000X**	**SIM7070X**	**SIM7080G**	**SIM7090G**
Form Factor	LCC, 68PIN	LCC ,68PIN	LCC+LGA,77PIN	LGA, 77PIN
Dimensions(mm)	24.0*24.0*2.6	24*24*2.3	17.6*15.7*2.4	14.8*12.8*2.0
Weight(g)	3.0	2.9	1.2	1.4
Frequency Bands(MHz) — A (North America)	CAT-M1&CAT-NB1: B2/B4/B12/B13			
Frequency Bands(MHz) — E(Europe/Africa/Australia/Southeast Asia)	CAT-M1&CAT-NB1:B3/B8/B20/B28 GPRS/EDGE: 900/1800Mhz	CAT-M1:B1/B2/B3/B4/B5/B8/B12/B13/B14/B18/B19/B20/B25/B26 /B27/B28/B31/B66/B72/B85 CAT-NB2:B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B28/B31/B66/B85 GSM/GPRS:850/900/1800/1900MHz		
Frequency Bands(MHz) — JC(Japan)	CAT-M1:B1/B3/B5/B8/B18/B19/B26 CAT-NB1:B1/B3/B5/B8/B18/B19/B26 (no GPRS)			
Frequency Bands(MHz) — G(Global)	CAT-M1: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28/B39 CAT-NB1: B1/B2/B3/B5/B8/B12/B13/B17/B18/B19/B20/B26/B28 GSM: 850/900/1800/1900MHz	CAT-M1:B1/B2/B3/B4/B5/B8/B12/B13/B14/B18/B19/B20/B25/B26/B27/B28/B66/B85 CAT-NB2:B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B28/B66/B71/B85 GSM/GPRS:850/900/1800/1900MHz	CAT.NB2/CAT,M1: B1/B2/B3/B4/B5/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B27/B28/B39/B66/B71/B85	CAT-M:B1/B2/B3/B4/B5/B8/B12/B13/B14/B18/B19/B20/B25/B26/B27/B28/B66/B85 CAT-NB:B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B28/B66/B71/B85
GNSS	○	○	○	○
Temperature	-40℃~+85℃	-40℃~+85℃	-40℃~+85℃	-40℃~+85℃
Electrical Features				
Supply Voltge Range	3.0V~ 4.3V	3.0V-4.6V	2.7V-4.8V	2.7V-4.8V
Power Consumption — PSM	9uA@PSM	3.2uA@PSM	3.2uA@PSM	3.2uA@PSM
Power Consumption — Sleep	1.2mA@ LTE	0.8mA	0.8mA	0.8mA
Power Consumption — Max Power	138mA@ B5	114mA@ B5	114mA@ B5	114mA@ B5
Network Registration Time(s)	12(Prefered band)	12(Prefered band)	12(Prefered band)	12(Prefered band)
Receive Sensitivity	-108dB@eMTC；-126dB@NB-IoT 15KHz	-108dB@eMTC -126dB@NB-IoT15KHz	-108dB@eMTC-126dB@NB-IoT15KHz	-108dB@eMTC-126dB@NB-IoT15KHz
Data Transfer				
LTE CAT.NB (Kbps)	34(DL)/66(UL)	136(DL)/150(UL)	136(DL)/150(UL)	127(DL)/158.5(UL)
LTE CAT.M1(Kbps)	300(DL)/375(UL)	589(DL)/1119(UL)	589(DL)/1119(UL)	589(DL)/1119(UL)
EDGE(Kbps)	236.8(DL)/236.8(UL)	236.8(DL)/236.8(UL)		
GPRS(Kbps)	85.6(DL)/85.6(UL)	85.6(DL)/85.6(UL)		
SMS	●	●	●	●
Software Features				
Protocols	TCP/UDP/LWM2M/COAP/MQTT/FTP/HTTP/TLS/DTLS/NTP	TCP/UDP/HTTP/HTTPS/TLS/DTLS/PING/LWM2M/COAP/MQTT	TCP/UDP/HTTP/HTTPS/TLS/DTLS/PING/LWM2M/COAP/MQTT	TCP/UDP/HTTP/HTTPS/TLS/DTLS/PING/LWM2M/COAP/MQTT
VoLTE	●	●	●	●
GSM Voice		●		
Embedded AT	●	●	●	●
FOTA	●	●	●	●
TLS	●	●	●	
USB Driver	Microsoft Windows 2000/XP/Vista/Win7/Win8/Win10/Linux	Microsoft Windows 2000/XP/Vista/Win7/Win8/Win10/Linux		
Firmware Upgrade	USB/FOTA	USB/FOTA	USB/FOTA	USB/FOTA
Interfaces				
UART — Full Function Uart	●	●	●	●
UART — Flow Control Uart	●	●	●	●
USB	●	●	●	●
PCM	●	●	●	○
Status Indicator	●	●	●	●
GPIO	●	●	●	●
SPI	○	●	●	●
I2C	●	●	●	●
Certification				
Certification	A: RoHS/REACH/GCF/FCC/PTCRB/AT&T/Verizon/GCF/IC/Rogers* E: RoHS/REACH/IMDA/RCM/Telstra/CE(RED)/GCF/ Deutsche Telekom/Vodafone* JC: RoHS/REACH/Telec/JATE/DoCoMo/KDDI G: RoHS/REACH/CCC/RCM/CE(RED)/GCF/Deutsche Telekom/FCC/IC/Anatel	E: RoHS/REACH/CE(RED)/FCC*/Anatel* G: RoHS/REACH/JATE/Telec/RCM/CE(RED)/GCF/Orange*/TIM*/Deutsche Telekom/Telefonica*/Vodafone*/FCC/PTCRB/AT&T/Verizon*/T-mobile/US Cellular*/IC	RoHS/REACH/JATE/Telec/DoCoMo*/KDDI*/Softbank/RCM/CE(RED)/GCF/Deutsche Telekom/FCC/PTCRB/AT&T/Verizon/T-mobile/US Cellular*/IC	RoHS/REACH/JATE/Telec/RCM/CE(RED)/GCF/FCC/PTCRB/AT&T/Verizon*/T-mobile*/US Cellular*/IC
Typical Applications	Home Security and Automation,Telematics,Smart Meters,Vending,Fleet Management,Asset Tracking			

o : Optional
* : Under Development

| LPWA Module

Technology	NB-IoT&GNSS		NB-IoT	
Product	**SIM7060G**	**SIM7060R**	**SIM7020E**	**SIM7020G**
Form Factor	LCC, 68PIN	LCC ,68PIN	LCC, 42PIN	LCC+LGA, 77PIN
Dimensions(mm)	24.0*24.0*2.6	24*24*2.6	17.6*15.7*2.3	17.6*15.7*2.3
Weight(g)	3.0	3.0	1.3	1.3
Frequency Bands(MHz) — A (North America)				
Frequency Bands(MHz) — E(Europe/Africa/Australia/Southeast Asia)			CAT.NB1: B1/B3/B5/B8/B20/B28	
Frequency Bands(MHz) — JC(Japan)				
Frequency Bands(MHz) — G(Global)	CAT.NB2: B1/B2/B3/B4/B5/B8/B12/B13/B17/B18/B19/B20/B25/B26/B28/B66/B70/B85*	CAT.NB1: B1/B2/B3/B4/B5/B8/B12/B13/B17/B18/B19/B20/B25/B26/B28/B31/B66/B70		CAT.NB2: B1/B2/B3/B4/B5/B8/B12/B13/B17/B18/B19/B20/B25/B26/B28/B66/B70/B85*
GNSS	●			
Temperature	-40℃~+85℃	-40℃~+85℃	-40℃~+85℃	-40℃~+85℃
Electrical Features				
Supply Voltge Range	2.1V-3.6V	2.1V-3.6V	2.1V-3.6V	2.1V-3.6V
Power Consumption — PSM	3.4uA@PSM	3.4uA@PSM	3.4uA@PSM	3.4uA@PSM
Power Consumption — Sleep	0.4mA	0.4mA	0.4mA	0.4mA
Power Consumption — Max Power	114mA@ B5	114mA@ B5	114mA@ B5	114mA@ B5
Network Registration Time(s)	12(Prefered band)	12(Prefered band)	12(Prefered band)	12(Prefered band)
Receive Sensitivity	-126dB@NB-IoT 15KHz	-126dB@NB-IoT 15KHz	-126dB@NB-IoT 15KHz	-126dB@NB-IoT 15KHz
Data Transfer				
LTE CAT.NB (Kbps)	26.15(DL)/62.5(UL)	26.15(DL)/62.5(UL)	26.15(DL)/62.5(UL)	136(DL)/150(UL)
LTE CAT.M1(Kbps)				
EDGE(Kbps)				
GPRS(Kbps)				
SMS	●	●	●	●
Software Features				
Protocols	TCP/UDP/LWM2M/COAP/MQTT/HTTP/HTTPS/TLS/DTLS/DNS/NTP/PING	TCP/UDP/LWM2M/COAP/MQTT/HTTP/HTTPS/TLS/DTLS/DNS/NTP/PING	TCP/UDP/LWM2M/COAP/MQTT/HTTP/HTTPS/TLS/DTLS/DNS/NTP/PING	TCP/UDP/LWM2M/COAP/MQTT/HTTP/HTTPS/TLS/DTLS/DNS/NTP/PING
VoLTE				
GSM Voice				
Embedded AT	●	●	●	●
FOTA	●	●	●	●
TLS	●	●	●	●
USB Driver				
Firmware Upgrade	UART/FOTA	UART/FOTA	UART/FOTA	UART/FOTA
Interfaces				
UART — Full Function Uart	●	●	●	●
UART — Flow Control Uart	●	●	●	●
USB	●	●	●	●
PCM				
Status Indicator	●	●	●	●
GPIO	●	●	●	●
SPI				
I2C				
Certification				
Certification	CE(RED)*	CE(RED)*	RoHS/REACH/IMDA/CE(RED)/ATEX/TIM/Deutsche Telekom/Vodafone	RoHS/REACH/RCM/Telstra/CE(RED)/GCF/ATEX/TIM*/Deutsche Telekom/Vodafone/FCC/PTCRM/T-mobile/IC
Typical Applications	Home Security and Automation,Telematics,Smart Meters,Vending,Fleet Management,Asset Tracking			

o : Optional
* : Under Development

Technology	LTE CAT12	LTE CAT6
Product	SIM7912G-M2	A7906E-M2
Picture		
Form Factor	M.2	M.2
Dimensions(mm)	42.0*30.0*2.3	42.0*30.0*2.3
Weight(g)	6.1	6.1
Frequency / LTE / LTE - FDD	B1/B2/B3/B4/B5/B7/B8/B12/B13/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66	B1/B3/B5/B7/B8/B20/B28/B32
LTE - TDD	B38/B39/B40/B41	B38/B40/B41
DL 2XCA	B1+B3/B5/B18/B19/B20/B26;B2+B2/B4/B5/B12/B13/B17/B29/B30/B66;B3+B3/B5/B7/B8/B19/B20/B28;B4+B4/B5/B12/B13/B17/B29/B30;B5+B7/B30/B66;B7+B7/B20/B28;B12+B30;B13+B66;B20+BB32;B29+B30;B38+B38;B40+B40;B41+B41;B66+B66	B1+B1/B5/B8/B20;B3+B3/B5/B7/B8/B20/B28;B7+B5/B7/B8/B20/B28;B20+B32;B38+B38;B40+B40;B41+B41;(Note:B32 is only for secondary component carrier)
DL 3XCA	DL inter-band 3CA:B1+B3+B7;B1+B3+B19;B1+B3+B20;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	N/A
UL 2XCA	B1+B1;B2+B2;B3+B3;B4+B4;B7+B7;B38+B38;B40+B40;B41+B41;B66+B66	N/A
WCDMA	B1/B2/B3/B4/B5/B8/B19	B1/B3/B5/B8
GNSS	Beidou/GPS/GLONASS	
Temperature	-30℃ ~ +70℃	-30℃ ~ +70℃
Electrical Features		
Supply Voltge Range	3.135V~ 4.4V，3.3V(typ)	3.1V~ 4.4V, Typ: 3.3V
Power Consumption (sleep)(mA)	3.0	TBD
Data Transfer		
LTE CAT 6		300Mbps(DL)/50Mbps (UL)
LTE CAT 12	600Mbps(DL)/75Mbps (UL)	
Software Features		
Protocol	TCP/IP/IPV4/IPV6/Multi-PDP/FTP/FTPS /HTTP/HTTPS/DNS	TCP/IP/IPV4/IPV6/Multi-PDP/DNS*
TLS	SSL3.0/TLS1.0/TLS1.2	SSL3.0/TLS1.0/TLS1.2*
FOTA	●	●
Android RIL	Android 2.3/4.0/5.0/6.0/7.0	Android 6/7/8/9*
USB Driver	Microsoft Windows2000/XP/Vista/Win7/Win8/Win10/Linux /Android	Microsoft Windows2000/XP/Vista/Win7/Win8/Win10/Linux /Android
Firmware Upgrade	USB/FOTA	
Interface		
USB3.0	*1	*1
PCIE	*1	*1
PCM	*1	*1
GPIO	*1	*1
I2C	*1	*1
Antenna	*3	*3
Certification		
Certification	RoHS/REACH/JATE/Telec/RCM/CE(RED)	CCC/CTA/SRRC/CE(RED)*
Typical Applications	Video Surveillance, Gateway, Industrail PDA, Router	

* : Under Development

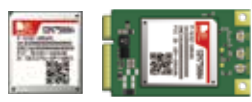| Technology	LTE CAT6		
Product	SIM7906SA-M2	SIM7906E-M2	SIM7906E-PCIE
Picture			
Form Factor	M.2	M.2	miniPCIe
Dimensions(mm)	42.0*30.0*2.3	42.0*30.0*2.3	30.0*51.0*4.3
Weight(g)	6.1	6.1	6.0
Frequency / LTE / LTE - FDD	B1/B2/B3/B4/B5/B7/B12/B17/B26/B27/B28/B66	B1/B3/B5/B7/B8/B20/B28/B32	B1/B3/B5/B7/B8/B20/B28/B32
LTE - TDD	B38/B41	B38/B40/B41	B38/B39/B40/B41
DL 2XCA	B1+B1/B5/B28;B2+B2/B5/B28;B3+B3/B5/B28;B4+B4/B5/B7/B27/B28;B5+B7/B38/B41/B66;B7+B7/B28;B12+B66;B26+B38/B41;B28+B28/B66;B38+B38;B41+B41;B66+B66;	B1+B1/B5/B8/B20/B28;B3+B3/B5/B7/B8/B20/B28;B7+B5/B7/B8/B20/B28;B20+B32;B38+B38;B40+B40;B41+B41;(Note:B32 is only for secondary component carrier)	B1+B1/B5/B8/B20/B28;B3+B3/B5/B7/B8/B20/B28;B7+B5/B7/B8/B20/B28;B20+B32;B38+B38;B39+B39;B40+B40;B41+B41;(Note:B32 is only for secondary component carrier)
DL 3XCA	N/A	N/A / N/A	N/A
UL 2XCA	N/A	N/A	N/A
WCDMA	B1/B2/B4/B5	B1/B3/B5/B8	B1/B3/B5/B8
GNSS	Beidou/GPS/GLONASS/Galileo/QZSS	Beidou/GPS/GLONASS	Beidou/GPS/GLONASS/Galileo/QZSS
Temperature	-30℃ ~ +70℃	-30℃ ~ +70℃	-30℃ ~ +70℃
Electrical Features			
Supply Voltge Range	3.135V~ 4.4V，3.7V(typ)	3.135V~ 4.4V，3.3V(typ)	3.1V~ 4.4V, Typ: 3.3V
Power Consumption (sleep)(mA)	2.4	2.4	2.4
Data Transfer			
LTE CAT 6	300Mbps(DL)/75Mbps (UL)	300Mbps(DL)/75Mbps (UL)	300Mbps(DL)/75Mbps (UL)
LTE CAT 12			
Software Features			
Protocol	TCP/IP/IPV4/IPV6/Multi-PDP/DNS	TCP/IP/IPV4/IPV6/Multi-PDP/FTP/FTPS /HTTP/HTTPS/DNS	TCP/IP/IPV4/IPV6/Multi-PDP/FTP/FTPS/HTTP/HTTPS/DNS*
TLS	SSL3.0/TLS1.0/TLS1.2	SSL3.0/TLS1.0/TLS1.2	SSL3.0/TLS1.0/TLS1.2
FOTA	●	●	●
Android RIL	Android 6/7/8/9	Android 2.3/4.0/5.0/6.0/7.0	Android 6/7/8/9
USB Driver	Microsoft Windows 2000/XP/Vista/Win7/Win8/Win10/Linux /Android	Microsoft Windows2000/XP/Vista/Win7/Win8/Win10/Linux /Android	Microsoft Windows 2000/XP/Vista/Win7/Win8/Win10/Linux /Android
Firmware Upgrade	USB/FOTA	USB/FOTA	USB/FOTA
Interface			
USB3.0	*1	*1	*1
PCIE	*1	*1	*1
PCM	*1	*1	*1
GPIO	*1	*1	*1
I2C	*1	*1	*1
Antenna	*3	*3	*3
Certification			
Certification	RoHS/REACH/RCM*	RoHS/REACH/RCM/CE(RED)	RoHS/REACH/RCM*/CE(RED)*
Typical Applications	Video Surveillance, Gateway, Industrail PDA, Router		

* : Under Development

LTE Module

Technology	LTE CAT4	LTE CAT3	LTE CAT1
Product	SIM7600X-H	SIM7100X	A7600E
Picture			
Form Factor	LCC, 87PIN	LCC, 87PIN	LCC+LGA,119PIN
Dimensions(mm)	30.0*30.0*2.9	30.0*30.0*2.9	30.0*30.0*2.5
Weight(g)	5.7	5.7	4.6
Frequency Bands — A(North America(AT&T)	LTE-FDD: B2/B4/B12 WCDMA: B2/B5	LTE-FDD: B2/B4/B5/B17 WCDMA: B2/B5	
— V(North America (Verizon))	V: LTE-FDD: B2/B4/B5/B13		
— E(Europe/Middle East/Africa/Korea /Thailand)	LTE-FDD: B1/B3/B5/B7/B8/B20 LTE-TDD: B38/B40/B41 WCDMA: B1/B5/B8 GSM: 900/1800MHz	LTE-FDD: B1/B3/B7/B8/B20 LTE-TDD: B38/B40 WCDMA: B1/B8 GSM: 900/1800 MHz	LTE-FDD: B1/B3/B5/B7/B8/B20 LTE-TDD: B38/B40/B41 GSM: 900/1800 MHz
— SA(New Zealand /Australia/South America)	LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B28 LTE-TDD: B40 WCDMA: B1/B2/B5/B8 GSM: 850/900/1800/1900MHz		
— JC/JE(Japan)	JC: LTE-FDD: B1/B3/B8/B18/B19/B26	JC: LTE-FDD: B1/B3/B8/B18/B19 LTE-TDD: B41 WCDMA: B1/B6/B8 GSM: 900/1800 MHz JE: LTE-FDD: B1/B8 WCDMA: B1/B8 GSM: 900/1800 MHz	
— G(Global)	LTE-FDD:B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/ B19/B20/B25/B26/B28/B66 LTE-TDD: B34/B38/B39/B40/B41 WCDMA: B1/B2/B4/B5/B6/B8/B19 GSM: 850/900/1800/1900MHz		
— NA(North America)	LTE-FDD: B2/B4/B5/B12/B13/B14/B25/B26/ B66/B71 LTE-TDD: B41		
GNSS	○	○	○
Temperature	-40℃ ~ +85℃	-40℃ ~ +85℃	-40℃ ~ +85℃
Electrical Features			
Supply Voltge Range	3.4V~ 4.2V	3.4V~ 4.2V	3.4V~ 4.2V
Power Consumption(mA)	2.8@GSM,BS_PA_MFRMS=2 3.3@WCDMA, DRX=9 2.3@LTE	4.3@GSM,BS_PA_MFRMS=2 2.1@WCDMA, DRX=9 1.9@LTE	3.5@GSM,BS_PA_MFRMS=2 3.8@LTE
Data Transfer			
LTE(Mbps)	150(DL)/50(UL)	100(DL)/50(UL)	10(DL)/5(UL)
WCDMA/HSPA+(Mbps)	42(DL)/5.76(UL)	42(DL)/5.76(UL)	
GPRS/EDGE(Kbps)	236.8(DL)/236.8(UL)	236.8(DL)/236.8(UL)	236.8(DL)/236.8(UL)
SMS	●	●	●
Software Features			
Protocol	TCP/IP/IPV4/IPV6/Multi-PDP/FTP/FTPS/ HTTP/ HTTPS/DNS	TCP/IP/IPV4/IPV6/Multi-PDP/FTP/FTPS/ HTTP/ HTTPS/SMTP/SMTPS/DNS	TCP/IP/IPV4/IPV6/Multi-PDP/FTP/FTPS /HTTP/ HTTPS/DNS
TLS	●	●	●
File System	●	●	●
Audio Record/Play	○	○	○
TTS	○	○	○
DTMF	○	○	○
LBS	●	●	●
FOTA	●	●	●
Jamming Detection	●	○	
Android RIL	Android 5.0/6.0/7.0/8.0/9.0	Android 5.0/6.0/7.0/8.0/9.0	Android 5.0/6.0/7.0/8.0/9.0
USB Driver	Microsoft Windows 7/8/10 Linux/Android	Microsoft Windows 7/8/10 Linux/Android	Microsoft Windows 7/8/10 Linux/Android
WWAN	●		●
ECM	●	●	●
MBIM	Win8/Win10	Win8/Win10	
NDIS	Linux/Windows 7/8/10	Linux/Windows 7/8/10	
Embedded AT	●		○
Firmware Upgrade	USB/FOTA	USB/FOTA	USB/FOTA
Interfaces			
SIM Card	1.8V/3.0V	1.8V/3.0V	1.8V/3.0V
UART	●	●	●
USB	●	●	●
PCM	○	○	○
ADC	●	●	●
GPIO	●	●	●
SD Card	●	●	●
SPI	○	●	
I2C	●	●	●
Diversity Receiver	●	●	
Certification			
Certification	A: RoHS/REACH/FCC/PTCRB/AT&T/IC/Rogers* E: RoHS/REACH/IMDA/CE(RED)/GCF/ Deutsche Telekom/Vodafone JC: RoHS/REACH/Telec/JATE/DoCoMo/KDDI/Softbank SA: RoHS/REACH/RCM/CE(RED)/Anatel V: RoHS/REACH/GCF/FCC/Verizon NA: RoHS/REACH/GCF/FCC/PTCRB/AT&T/Verizon/ T-mobile/US Cellular*/IC G: RoHS/REACH/CCC/JATE/Telec/KC*/RCM/Telstra*/ CE(RED)/GCF/Deutsche Telekom/ICASA*/FCC/PTCRB/ AT&T*/Verizon*/T-mobile*/US Cellular*/IC/FAC/Anatel	A: RoHS/REACH/FCC/PTCRB/AT&T/IC/Rogers E: RoHS/REACH/CE(RED)/GCF*/ICASA JC: RoHS/REACH/Telec/JATE/DoCoMo/KDDI JE: RoHS/REACH/Telec/JATE/Softbank	RoHS*/REACH*/CE(RED)
Typical Applications	Fleet Management,Telematics,Security,Tracking,Agriculture,Smart Meters,Router,Gateway		

○ : Optional   * : Under Development

LTE Module

Technology	LTE CAT1		
Product	SIM7600X	SIM7500X	A7670X
Picture			
Form Factor	LCC, 87PIN	LGA, 56PIN	LGA, 68PIN
Dimensions(mm)	30.0*30.0*2.9	24.0*27.0*2.75	24.0*24.0*2.3
Weight(g)	5.7	4	3.08
Frequency Bands — A(North America(AT&T)	LTE-FDD: B2/B4/B12 WCDMA: B2/B5	LTE-FDD: B2/B4/B12 WCDMA: B2/B5	
— V(North America (Verizon)		LTE-FDD B4/B13	
— E(Europe/Middle East/Africa/Korea /Thailand)	LTE-FDD: B1/B3/B5/B7/B8/B20 LTE-TDD: B38/B40/B41 WCDMA: B1/B5/B8 GSM: 900/1800 MHz	LTE-FDD: B1/B3/B7/B8/B20 WCDMA: B1/B8 GSM: 900/1800MHz	LTE-FDD: B1/B3/B5/B7/B8/B20 GSM: 900/1800 MHz
— SA(New Zealand /Australia/South America)	LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B28 LTE-TDD: B40 WCDMA: B1/B2/B5/B8 GSM: 850/900/1800/1900 MHz	LTE-FDD: B1/B3/B5/B7/B8/B28 WCDMA: B1/B5	LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B28/B66 GSM: 850/900/1800/1900 MHz
— JC/JE(Japan)		JC: LTE-FDD: B1/B18/B19/B26 JE: LTE-FDD: B1/B3/B8	
— G(Global)	LTE-FDD:B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/ B19/B20/B25/B26/B28/B66 LTE-TDD: B34/B38/B39/B40/B41 WCDMA: B1/B2/B4/B5/B6/B8/B19 GSM: 850/900/1800/1900MHz		
— NA(North America)	LTE-FDD: B2/B4/B5/B12/B13/B14/B25/ B26/B66/B71 LTE-TDD: B41		
— C(China)			LTE-FDD: B1/B3/B5/B8 LTE-TDD: B34/B38/ B39/B40/B41 GSM: 900/1800 MHz
GNSS	○	○	
Temperature	-40℃ ~ +85℃	-40℃ ~ +85℃	-40℃ ~ +85℃
Electrical Features			
Supply Voltge Range	3.4V~ 4.2V	3.4V~ 4.2V	3.4V~ 4.2V
Power Consumption(mA)	2.8@GSM,BS_PA_MFRMS=2 3.3@WCDMA, DRX=9 2.3@LTE	2.8@GSM,BS_PA_MFRMS=2 3.3@WCDMA, DRX=9 1.6@LTE	3.5@GSM,BS_PA_MFRMS=2 3.8@LTE
Data Transfer			
LTE(Mbps)	10(DL)/5(UL)	10(DL)/5(UL)	10(DL)/5(UL)
WCDMA/HSPA+(Mbps)	42(DL)/5.76(UL)	42(DL)/5.76(UL)	
GPRS/EDGE(Kbps)	236.8(DL)/236.8(UL)	236.8(DL)/236.8(UL)	236.8(DL)/236.8(UL)
SMS	●	●	●
Software Features			
Protocol	TCP/IP/IPV4/IPV6/Multi-PDP/FTP/FTPS/ HTTP/HTTPS/DNS	TCP/IP/IPV4/IPV6/Multi-PDP/FTP/FTPS/ HTTP/HTTPS/DNS	TCP/IP/IPV4/IPV6/Multi-PDP/FTP/FTPS/ HTTP/HTTPS/DNS
TLS	●	●	●
File System	●	●	●
Audio Record/Play	○	○	○
TTS	○	○	○
DTMF	○	○	○
LBS	●	●	●
FOTA	●	●	●
Jamming Detection	●	●	
Android RIL	Android 5.0/6.0/7.0/8.0/9.0	Android 5.0/6.0/7.0/8.0/9.0	Android 5.0/6.0/7.0/8.0/9.0
USB Driver	Microsoft Windows 7/8/10 Linux/Android	Microsoft Windows 7/8/10 Linux/Android	Microsoft Windows 7/8/10 Linux/Android
WWAN	●	●	
ECM	●	●	●
MBIM	Win8/Win10	Win8/Win10	
NDIS	Linux/Windows 7/8/10	Linux/Windows 7/8/10	
Embedded AT			○
Firmware Upgrade	USB/FOTA	USB/FOTA	USB/FOTA
Interfaces			
SIM Card	1.8V/3.0V	1.8V/3.0V	1.8V/3.0V
UART	●	●	●
USB	●	●	●
PCM	○	○	○
ADC	●	●	●
GPIO	●	●	●
SD Card	●		●
SPI	○		
I2C	●	●	●
Diversity Receiver	●		
Certification			
Certification	A: RoHS/REACH/FCC/PTCRB/AT&T/IC/Rogers/Anatel E: RoHS/REACH/KC/IMDA/CE(RED)/GCF/ Deutsche Telekom/Vodafone/ SA: RoHS/REACH/RCM/Telstra/CE(RED)/GCF/Anatel NA: RoHS/REACH/GCF/FCC/PTCRB/AT&T/Verizon/ T-mobile/US Cellular*/IC G: RoHS/REACH/CE(RED)/JATE/Telec/FCC/RCM/ GCF/PTCRB/AT&T*/Verizon*/T-mobile*/US Cellular*/IC	A: RoHS/REACH/FCC/PTCRB/AT&T/IC/Rogers E: RoHS/REACH/SRRC/CE(RED)/Deutsche Telekom JC: RoHS/REACH/Telec/JATE/DoCoMo/KDDI JE: RoHS/REACH/Telec/JATE/Softbank SA: RoHS/REACH/RCM/Telstra*/CE(RED) V: RoHS/REACH/GCF/FCC/Verizon	C: RoHS*/REACH*/CCC/CTA/SRRC/CMCC*/ China Unicom*/China Telecom* E: RoHS*/REACH*/CE(RED) SA: RoHS*/REACH*/CE(RED)*/RCM*/FCC*/Anatel*
Typical Applications	Fleet Management,Telematics,Security,Tracking,Agriculture,Smart Meters,Router,Gateway		

○ : Optional   * : Under Development

| Smart Module

Technology	Smart Module	
Product	**SIM8905X**	**SIM8950X**
Picture		
Form Factor	LCC+LGA 210PIN	LCC+LGA 210PIN
Dimensions(mm)	40.5*40.5*2.8	44.1*45.6*2.8
Weight(g)	10.6	12.5
Frequency Bands — -A(North America)	LTE-FDD: B2/B4/B5/B7/B12/B13/B17/B25/B26 LTE-TDD: B41 WCDMA: B1/B2/B4/B5/B8 EDGE/GPRS/GSM: 850/900/1900 MHz	LTE-FDD: B2/B4/B5/B12/B13/B14/B25/B26 LTE-TDD: B41 WCDMA: B2/B4/B5 EDGE/GPRS/GSM: 850/1900 MHz
Frequency Bands — -E(Europe)	LTE-FDD: B1/B3/B5/B7/B8/B20 LTE-TDD: B38/B40/B41 WCDMA: B1/B2/B5/B8 GSM: 850/900/1800/1900 MHz	LTE-FDD: B1/B3/B5/B7/B8/B20 LTE-TDD: B38/B40/B41 WCDMA: B1/B5/B8 GSM: 900/1800 MHz
GNSS	BeiDou/GPS/GLONASS	BeiDou/GPS/GLONASS
WLAN	2.4G/5G, 802.11 b/g/n/a	2.4G/5G, 802.11a/b/g/n/ac
Application Processor	Quad ARM Cortex-A7 cores up to 1.1 GHz	Octa ARM Cortex-A53 cores up to 1.8GHz
Memory	1GB LPDDR3 RAM +8GB eMMC Flash	2GB LPDDR3 RAM +16GB eMMC Flash
Supply Voltge Range	3.4V~ 4.4V	3.4V~ 4.4V
Temperature	-35℃ ~ +75℃	-25℃ ~ +75℃
Data Transfer		
LTE(Mbps)	LTE CAT 4 - 150(DL)/50(UL)	LTE CAT 4 - 150(DL)/50(UL)
WCDMA/HSPA/HSPA+(Mbps)	42.2(DL)/5.76(UL)	42.2(DL)/5.76(UL)
TD-SCDMA(Mbps)	2.8(DL)/2.2(UL)	2.8(DL)/2.2(UL)
CDMA EV-DO(Mbps)	3.1(DL)/1.8(UL)	3.1(DL)/1.8(UL)
CDMA 1xRTT(Kbps)	153.6(DL)/153.6(UL)	153.6(DL)/153.6(UL)
GPRS(Kbps)	Max 107(DL)/85.6(UL)	Max 107(DL)/85.6(UL)
EDGE(Kbps)	Max 296(DL)/236.8(UL)	Max 296(DL)/236.8(UL)
Media		
Display	4-lane MIPI_DSI HD(720P), 60fps	4-lane MIPI_DSI * 2 FHD 1920*1200 60fps
Camera	MIPI_CSI * 2 Primary camera: 2-lane MIPI_CSI, up to 8MP Secondary camera: 1-lane MIPI_CSI, up to 5MP	MIPI_CSI * 2 Primary camera: 4-lane MIPI_CSI，up to 21MP Secondary camera: 2-lane MIPI_CSI，up to 8MP
Video Performance	Encode： H.264 BP/MP – 720p，30 fps；MPEG-4 SP/H.263 P0 – WVGA，30 fps；VP8 –WVGA，30 fps； Decode： H.264 BP/MP/HP – 1080p，30 fps；MPEG-4 SP/ASP –1080p，30 fps；DivX 4x/5x/6x –1080p， 30 fps；H.263 P0 – WVGA，30 fps；VP8 –1080p， 30 fps；(HEVC) H.265 MP 8 bit –1080p，30 fps；	Encode：1080p60, H.264, H.265, VP8 Decode：1080p60, H.264, H.265, VP8, VP9 Wireless Display（Decode+Encode）： 1080p60 Dec + 1080p30 Enc
Analog Audio	2 Inputs&3 Outputs	2 Inputs &4 Outputs
Audio Codec	G711；Raw PCM；QCELP；EVRC、EVRC-B、 EVRC-WB；AMR-NB、AMR-WB；GSM-EFR、 GSM-FR、GSM-HR MP3；AAC、AAC+、eAAC；AMR-NB、ARM-WB； G.711、WMA 9/10 Pro	G711;QCELP;EVRC;EVRC-B、EVRC-WB; AMR-NB、AMR-WB;GSM-EFT、GSM-FT、 GSM-HR
Interfaces		
UART	*2	*4
USB	USB2.0	USB3.0/2.0/Type-C/OTG
UIM	*2	*2
GPIO	At Least 21*GPIO	At Least 22*GPIO
SD Card	●	●
SPI	●	●
I2C	*3	*3
ADC	*1	*1
Motor Drive	*1	○
WLED Sink		○
Flash Drive		○
Antenna	Main&Diversity&GNSS&Wi-Fi/BT ANT	Main&Diversity&GNSS&Wi-Fi/BT
Software Features		
Operating System	Android 5.1/7.1/8.1/Linux 4.9	Android 7.1/8.1
USB Driver	Microsoft Windows 2000/XP/Vista/Win7/Win8/Win10/Linux	Microsoft Windows 2000/XP/Vista/Win7/Win8/Win10/Linux
Bluetooth	BT 2.1+EDR/3.0/4.1 LE	BT 2.1+EDR/3.0/4.1 LE/4.2 BLE
Dual LCD		●
DSDS	●	●
Charge Function	●	○
Firmware Upgrade	USB/OTA/TF card	USB/OTA/TF card
Certification		
Certification	**A:** RoHS/REACH/FCC/PTCRB/IC/AT&T **E:** RoHS/REACH/CE(RED)	RoHS/REACH/CE(RED)
Typical Applications	**POS, Security, Networking, Telematics,Retail**	

○：Optional　*：Under Development

| Automotive Module

Technology	LTE CAT4	C-V2X
Product	**SIM7800E**	**SIM8100**
Picture		
Form Factor	LGA，282 PIN	LGA，189 PIN
Dimensions(mm)	34.0*40.0*3.1	30.0*32.0*2.75
Weight(g)	7.8g±0.2	5.8
Frequency Bands	LTE-FDD: B1/B3/B5/B7/B8/B20　LTE-TDD: B38/B40/B41 WCDMA: B1/B5/B8　GSM: 900/1800 MHz	B47, B46D
GNSS	BeiDou/GPS/GLONASS/Galileo/QZSS	BeiDou/GPS/GLONASS/Galileo
Bluetooth	BLE4.2(with W59)	N/A
Temperature	-40℃ ~ +85℃	-40℃ ~ +85℃
Electrical Features		
Supply Voltge Range	3.3V~ 4.3V	4.75V~ 5.25V
Power Consumption (sleep)(mA)	1.8mA@GSM,BS_PA_MFRMS=2 3.3mA@WCDMA, DRX=9 1.84mA@LTE-FDD	TBD
Data Transfer		
GPRS Slot	class 12	
LTE(Mbps)	LTE CAT 4: 150 (DL)/50(UL)	
WCDMA/HSPA/HSPA+(Mbps)	42.2(DL)/11.5(UL)	3GPP Release 14 C-V2X PC-5 mode
TD-SCDMA(Mbps)	2.8(DL)/2.2(UL)	
CDMA EV-DO(Mbps)	3.1(DL)/1.8(UL)	
EDGE(Kbps)	236.8(DL)/236.8(UL)	
Software Features		
Protocol	TCP/IP/IPV4/IPV6/MultiPDP/FTP/FTPS/HTTP/ HTTPS/DNS/SMTP/ SMTPS/NTP/PING/SSL	PC5
eCall	●	N/A
Open Linux	●	N/A
Multi-APN	●	N/A
SDIO	●	N/A
UART2	●	N/A
FOTA	●	N/A
Temperature Control	●	N/A
TLS	●	N/A
File System	●	N/A
Audio Record/Play	●	N/A
TTS	●	N/A
DTMF	●	N/A
LBS	●	N/A
ECM	●	N/A
QMI_WWAN Driver	●	N/A
RIL Driver	Android 2.3/4.0/5.0/6.0/7.0	N/A
Security	SELinux/Trustzone/Secure boot	N/A
Routing policy	4G,WIFI and Ehternet port	N/A
Android RIL	Android 2.4.0/4.0/5.0/6.0/7.0	N/A
USB Driver	Microsoft Windows 2000/XP/Vista/Win7/Win8/Win10/ Linux /Android	N/A
NDIS/RNDIS	●	N/A
Embedded AT	●	N/A
Firmware Upgrade	USB /FOTA	N/A
Wi-Fi	2.4G/5G(with W59)	N/A
Interfaces		
SGMII	10M/100M/1000M Ehternet	N/A
UART	3*UART	2*UART
USB	1*2.0	1*3.0, 1*2.0
ADC	3*ADC	N/A
OTG	●	N/A
HSIC	●	N/A
PCIE		PCIe Gen 2 (PCIe GEN1 compatible)
PCM	1*I2S	N/A
Analog Audio	○	N/A
GPIO	5*GPIO	●
SDIO	SDIO3.0（200MHz Max）	N/A
SD Card	SD3.0（128G Max）	8-bit EMMC 4.51 at up to 100MHz SDR(1.8V) or 4-bit dual voltage SD 3.0 up to 50MHz DDR(1.8/2.85V).1-bit or 4-bit SD card up to 200MHz SDR mode.
SPI	1*SPI	1*SPI
I2C	1*I2C	N/A
Antenna	1*Main&1*Diversity&1*GNSS	2*V2X&1*GNSS
Certification		
Certification	RoHS/REACH/CE(RED)*	
Typical Applications	**Vehicle Tracking, OBD,Vehicle DVR, T-BOX**	

○：Optional　*：Under Development

WCDMA/HSPA/HSPA+ Module

Technology	WCDMA/HSDPA		
Product	**SIM5320X**		
Picture			
Form Factor	LCC, 80PIN		
Dimensions(mm)	30.0*30.0*2.9		
Weight(g)	5.6		
Frequency Bands	-A(North America)	WCDMA: B2/B5 GSM: 850/900/1800/1900MHz	
	-E(China/ Europe)	WCDMA: B1/B8 GSM: 850/900/1800/1900MHz	
	-JE (Japan)	WCDMA: B1/B8 GSM: 850/900/1800/1900MHz	
	-J(South Asia /Australia)	WCDMA: B1/B5(B6) GSM: 850/900/1800/1900MHz	
GNSS	GPS		
Temperature	-40℃ ~ +85℃		
Electrical Features			
Supply Voltge Range	3.4V~4.2V		
Power Consumption(mA)	2.3@GSM, DRX=9 2.7@WCDMA, DRX=8		
Data Transfer			
WCDMA/HSPA/HSPA+	3.6Mbps(DL) 384Kbps(UL)		
GPRS（Kbps）	85.6(DL)/85.6(UL)		
EDGE（Kbps）	236.8(DL)/236.8(UL)		
SMS	●		
CSD	●		
Software Features			
Protocol	TCP/IP/FTP/FTPS/HTTP/HTTPS/SMTP/DNS		
eCall			
MMS	●		
TLS	●		
File System	●		
Audio Record/Play			
TTS			
DTMF	O		
LBS	●		
FOTA	●		
Jamming Detection	●		
Network Scanning	●		
Android RIL	Android 2.4/4.0/5.0/6.0/7.0		
USB Driver	Microsoft Windows 2000/XP/Vista/Win7/Win8/ Win10/ Linux /Android		
Embedded AT	●		
Firmware Upgrade	USB		
Interfaces			
UART	●		
USB	●		
SIM	1.8V/3.0V		
PCM	O		
ADC	●		
GPIO	At Least 7*GPIO		
SD卡			
SPI	●		
I2C	●		
Certification			
Certification	A: RoHS/REACH/RCM/FCC/PTCRB/AT&T/IC/Rogers E: RoHS/REACH/CCC/IMDA*/RCM/CE(RED)/GCF/Orange/TIM/Deutsche Telekom/Vodafone/ICASA J: RoHS/REACH/Telec/JATE/Docomo/RCM JE: RoHS/REACH/Telec/JATE/Softbank		
Typical Applications	Telematics,Fleet Management,Tracking,Smart Meters,Security,RMAC		

o: Optional   * : Under Development

GSM/GPRS Module

Technology	GSM/GPRS		
Product	**SIM800C**	**SIM800F**	**SIM800H**
Picture			
Form Factor	LCC, 42PIN	LCC, 68PIN	LGA,88PIN
Dimensions(mm)	17.6*15.7*2.3	24.0*24.0*3.0	17.8*15.8*2.4
Weight(g)	1.3	3.1	1.35
Frequency Bands	GSM: 850/900/1800/1900MHz	GSM: 850/900/1800/1900MHz	GSM: 850/900/1800/1900MHz
Bluetooth	BT 3.0	BT 3.0	BT 3.0
GNSS			
Temperature	-40℃~+85℃	-40℃~+85℃	-40℃~+85℃
Electrical Features			
Supply Voltge Range	3.4V~4.4V	3.4V~4.4V	3.4V~4.4V
Power Consumption(mA)	1.50@GSM, DRX=2 0.90@GSM, DRX=9	1.30@GSM, DRX=2 0.85@GSM, DRX=9	1.50@GSM, DRX=2 0.90@GSM, DRX=9
Data Transfer			
GPRS Slot	Class 10/12	Class 10/12	Class 10/12
Data Rate(kbps)	85.6(DL&UL)	85.6(DL&UL)	85.6(DL&UL)
Software Features			
Protocols	TCP/UDP/HTTP/FTP/ POP3/SMTP/PPP	TCP/UDP/HTTP/FTP/ POP3/SMTP/PPP	TCP/UDP/HTTP/FTP/ POP3/SMTP/PPP
MMS	●	●	●
TLS	○	○	○
Audio Record/Play	●	●	●
TTS	○	○	○
DTMF	●	●	●
LBS	○	○	○
Jamming Detection	●	●	●
Network Scanning	●	●	●
MUX	●	●	●
Embedded AT	○	○	○
Firmware Upgrade	USB/UART	USB/UART	USB/UART
Specifications for Voice			
Speech Codec Modes	AMR/HR/FR/EFR	AMR/HR/FR/EFR	AMR/HR/FR/EFR
Echo Arithmetic	AEC/EES	AEC/EES	AEC/EES
Interfaces			
UART	●	●	●
USB	●	●	●
SIM Card	1.8V/3.0V	1.8V/3.0V	1.8V/3.0V
PCM		○	○
Analog Audio	1 Input&1 Output	1 Input&1 Output	1 Input&1 Output
ADC	●	●	●
GPIO	At Least 2*GPIO	At Least 3*GPIO	At Least 3*GPIO
SD	●	●	●
SPI		○	○
I2C		●	●
Certification			
Certification	RoHS/REACH/CCC/CTA/SRRC/CMCC/ China Unicom/RCM/CE(RED)/GCF/TIM/ Deutsche Telekom/ICASA/FCC/Anatel//BQB	RoHS/REACH/CCC/CTA/SRRC/CMCC/CE(RED)/ GCF/Orange/ICASA/FCC	RoHS/REACH/CCC/RCM/CE(RED)/GCF/Orange/ ICASA/FCC/PTCRB/Anatel
Typical Applications	Telematics,Fleet Management,Smart Meters,Security,RMAC		

o: Optional   * : Under Development

| GSM/GPRS Module

Technology	GSM/GPRS	GSM/GPRS&GNSS	
Product	SIM800C-DS	SIM868	SIM868E
Picture			
Form Factor	LCC& LGA, 77PIN	LCC&LGA,77PIN	LCC&LGA,77PIN
Dimensions(mm)	17.6*15.7*2.3	17.6*15.7*2.3	17.6*15.7*2.3
Weight(g)	1.3	1.5	1.5
Frequency Bands	GSM: 850/900/1800/1900MHz	GSM: 850/900/1800/1900MHz	GSM: 850/900/1800/1900MHz
Bluetooth	BT 3.0	BT 3.0	BT 3.0&4.0
GNSS		BeiDou/GPS/GLONASS	BeiDou/GPS/GLONASS
Temperature	-40℃~+85℃	-40℃~+85℃	-40℃ ~ +85℃
Electrical Features			
Supply Voltge Range	3.4V~4.4V	3.4V~4.4V	3.4V~ 4.4V
Power Consumption(mA)	1.60@GSM, DRX=2 0.93@GSM, DRX=9		1.42@GSM, DRX=2 0.86@GSM, DRX=9
Data Transfer			
GPRS Slot	Class 10/12	Class 10/12	Class 10/12
Data Rate(kbps)	85.6（DL&UL）	85.6（DL&UL）	85.6（DL&UL）
Software Features			
Protocols	TCP/UDP/HTTP/FTP/ POP3/SMTP/PPP	TCP/UDP/HTTP/FTP/ POP3/SMTP/PPP	TCP/UDP/HTTP/FTP/ POP3/SMTP/PPP
MMS	●	●	●
TLS	○	○	○
Audio Record/Play	●	●	●
TTS	○	○	○
DTMF	●	●	●
LBS	○	○	○
Jamming Detection	●	●	●
Network Scanning	●	●	●
MUX	●	●	●
Embedded AT	○	○	○
Firmware Upgrade	USB/UART	USB/UART	USB/UART
Specifications for Voice			
Speech Codec Modes	AMR/HR/FR/EFR	AMR/HR/FR/EFR	AMR/HR/FR/EFR
Echo Arithmetic	AEC/EES	AEC/EES	AEC/EES
Interfaces			
UART	●	●	●
USB	●	●	●
SIM Card	1.8V/3.0V	1.8V/3.0V	1.8V/3.0V
PCM	○	○	○
Analog Audio	1 Input&1 Output	1 Input&2 Output	1 Input&2 Output
ADC	●	●	●
GPIO	At Least 4*GPIO	At Least 4*GPIO	At Least 4*GPIO
SD卡	●	●	●
SPI	○	○	○
I2C	●	●	●
Certification			
Certification	CE/RoHS/REACH	RoHS/REACH/CCC/CTA/SRRC/CMCC/ CE(RED)/GCF/Deutsche Telekom/ICASA/FCC	CE/RoHS/REACH/BQB/Deutsche Telekom
Typical Applications	Telematics,Fleet Management,Smart Meters,Security,RMAC		

o: Optional * : Under Development

| GNSS Module

Technology	GNSS			
Product	SIM28M	SIM28ML	SIM68M	SIM68ML
Picture				
Form Factor	LCC, 18PIN	LCC, 18PIN	LCC, 18PIN	LCC, 18PIN
Dimensions(mm)	9.7*10.1*2.5	9.7*10.1*2.5	10.1*9.7*2.5	9.7*10.1*2.5
Weight(g)	0.5	0.5	0.5	0.5
Temperature	-40℃~+85℃	-40℃~+85℃	-40℃~+85℃	-40℃~+85℃
Electrical Features				
Supply Voltge Range	2.8~4.3V	2.8~4.3V	2.8~4.3V	2.8~4.3V
I/O Voltage	2.8V	2.8V	2.8V	2.8V
Power Consumption — Acquisition	17mA	17mA	25mA	25mA
Power Consumption — Tracking	16mA	16mA	21mA	18mA
Power Consumption — Sleep	150μA	150μA	340μA	350uA
Power Consumption — Backup	8μA	8μA	14μA	14uA
GNSS				
GNSS	GPS	GPS	GPS/GLONASS/Galileo/QZSS	GPS/GLONASS/Galileo/QZSS
A-GPS	●		●	●
Channel Number	22 Track/66 Acq	22 Track/66 Acq	33 Track/99 Acq	33 Track/99 Acq
SBAS	WAAS/EGNOS/GAGAN/MSAS	WAAS/EGNOS/GAGAN/MSAS	WAAS/EGNOS/GAGAN/MSAS	WAAS/EGNOS/GAGAN/MSAS
Sensivity — Tracking	-165 dBm	-165 dBm	-165 dBm	-165 dBm
Sensivity — Cold Start	-148 dBm	-148 dBm	-148 dBm	-148 dBm
Sensivity — Reacquisition	-160 dBm	-160 dBm	-160 dBm	-160 dBm
TTFF (Time to First Fix) — Cold Start	32s	32s	28s	28s
TTFF (Time to First Fix) — Warm Start	30s	30s	26s	26s
TTFF (Time to First Fix) — Hot Start	<1s	<1s	<1s	<1s
Accuracy — Position	<2.5m CEP	<2.5m CEP	<2.5m CEP	<2.5m CEP
Accuracy — Velocity	0.1m/s	0.1m/s	0.1m/s	0.1m/s
Max Update Rate	10Hz	5Hz	10Hz	10Hz
Baud Rate(default)	9600/115200	9600/115200	9600/115200	9600/115200
Jamming Detection	●		●	●
Anti-jamming	●	●	●	●
Built-in LNA	●	●	●	●
Interfaces				
UART	●	●	●	●
Reset	●	●	●	●
Time Pulse	●	●	●	●
Digital I/O	●	●	●	●
Antenna				
Antenna Type	Active/passive	Active/passive	Active/passive	Active/passive
Antenna Power	External or internal	External or internal	External or internal	External or internal
Certification				
Certification	RoHS/REACH/CE(RED)	RoHS/REACH/CE(RED)	RoHS/REACH/CE(RED)	RoHS/REACH/CE(RED)
Typical Applications	Pet Tracking, Asset Tracking			

o: Optional   * : Under Development

GNSS Module

Technology	GNSS			
Product	SIM33ELA	SIM68E	SIM68D	SIM68I
Picture				
Form Factor	LCC, 31PIN	LCC, 22PIN	LCC, 24PIN	LCC, 24PIN
Dimensions(mm)	14.0*9.6*2.15	13.0*15.0*2.3	16*12.2*2.4	16*12.2*2.4
Weight(g)	0.5	0.5	1	1
Temperature	-40℃~+85℃	-40℃~+85℃	-40℃ ~ +85℃	-40℃ ~ +85℃
Electrical Features				
Supply Voltge Range	2.8~4.3V	2.8~4.3V	2.8~4.5V	2.8~4.5V
I/O Voltage	2.8V	2.8V	2.8V	2.8V
Power Consump-tion — Acquisition	25mA	25mA	32mA	32mA
Power Consump-tion — Tracking	20mA	20mA	23mA	23mA
Power Consump-tion — Sleep	320µA	340µA	353uA	353uA
Power Consump-tion — Backup	14µA	14µA	78uA	78uA
GNSS				
GNSS	GPS/GLONASS/Galileo/QZSS	GPS/GLONASS/Galileo/QZSS	L1: GPS/Beidou/GLONASS/Galileo/QZSS L5: GPS/Beidou/Galileo/QZSS/	L1: GPS/Beidou/GLONASS/Galileo L5: NavIC
A-GPS	●	●	●	●
Channel Number	33 Track/99 Acq	33 Track/99 Acq	L1:75+L5:60	L1:75+L5:7
SBAS	WAAS/EGNOS/GAGAN/MSAS	WAAS, EGNOS, GAGAN,MSAS	WAAS/EGNOS/GAGAN/MSAS/SDCM	WAAS/EGNOS/GAGAN/MSAS/SDCM
Sensivity — Tracking	-165 dBm	-165 dBm	-165 dBm	-165 dBm
Sensivity — Cold Start	-147 dBm	-148 dBm	-148 dBm	-148 dBm
Sensivity — Reacquision	-160 dBm	-160 dBm	TBD	TBD
TTFF (Time to First Fix) — Cold Start	28s	28s	TBD	TBD
TTFF (Time to First Fix) — Warm Start	26s	26s	24S	24S
TTFF (Time to First Fix) — Hot Start	<1s	<1s	<1S	<1S
Accuracy — Position	<2.5m CEP	<2.5m CEP	<1m CEP	<1m CEP
Accuracy — Velocity	0.1m/s	0.1m/s	TBD	TBD
Max Update Rate	10Hz	10Hz	10Hz	10Hz
Baud Rate(default)	9600/115200	9600/115200	9600/115200	9600/115200
Jamming Detection	●	●	●	●
Anti-jamming	●	●	●	●
Built-in LNA	●	●	●	●
Interfaces				
UART	●	●	●	●
Reset		●	●	●
Time Pulse	●	●	●	●
Digital I/O	●	●	●	●
Antenna				
Antenna Type	Passive	Active/passive	Active/passive	Active/passive
Antenna Power	Internal	Internal	External or internal	External or internal
Certification				
Certification	RoHS/REACH/CE(RED)	RoHS/REACH/CE(RED)	RoHS*/REACH*/CE(RED)*	RoHS*/REACH*/CE(RED)*
Typical Applications	Pet Tracking, Asset Tracking			

o: Optional   * : Under Development

GNSS Module

Technology	GNSS			
Product	SIM33EAU	SIM39EAU	SIM39EA	SIM39EAR
Picture				
Form Factor	LCC, 16PIN	LCC, 16PIN	LCC, 13PIN	LCC, 13PIN
Dimensions(mm)	22.0*22.0*7.5	22.0*22.0*7.5	16.0*16.0*6.2	16.0*16.0*6.2
Weight(g)	8.5	8.5	5.8	5.8
Temperature	-40℃~+85℃	-40℃~+85℃	-40℃~+85℃	-40℃~+85℃
Electrical Features				
Supply Voltge Range	2.8~4.3V	2.8~4.3V	2.8~4.3V	2.8~4.3V
I/O Voltage	2.8V	2.8V	2.8V	2.8V
Power Consump-tion — Acquisition	38mA	27mA	32mA	32mA
Power Consump-tion — Tracking	32mA	24mA	27mA	27mA
Power Consump-tion — Sleep	520µA	24µA	400µA	400µA
Power Consump-tion — Backup	13µA		8µA	8µA
GNSS				
GNSS	GPS/GLONASS/Galileo/QZSS	GPS	GPS	GPS
A-GPS	●	●	●	●
Channel Number	33 Track/99 Acq	22 Track/66 Acq	22 Track/66 Acq	22 Track/66 Acq
SBAS	WAAS/EGNOS/GAGAN/MSAS	WAAS, EGNOS, GAGAN,MSAS	WAAS/EGNOS/GAGAN/MSAS	WAAS/EGNOS/GAGAN/MSAS
Sensivity — Tracking	-165 dBm	-165 dBm	-165 dBm	-165 dBm
Sensivity — Cold Start	-146 dBm	-147 dBm	-147 dBm	-147 dBm
Sensivity — Reacquision	-160 dBm	-160 dBm	-160 dBm	-160 dBm
TTFF (Time to First Fix) — Cold Start	31s	32s	32s	32s
TTFF (Time to First Fix) — Warm Start	26s	30s	30s	30s
TTFF (Time to First Fix) — Hot Start	<1s	<1s	<1s	<1s
Accuracy — Position	<2.5m CEP	2.5m CEP	<2.5m CEP	<2.5m CEP
Accuracy — Velocity	0.1m/s	0.1m/s	0.1m/s	0.1m/s
Max Update Rate	10Hz	10Hz	10Hz	10Hz
Baud Rate(default)	9600/115200	9600/115200	9600/115200	9600/115200
Jamming Detection	●	●	●	●
Anti-jamming	●	●	●	●
Built-in LNA	●	●	●	●
Interfaces				
UART	●	●	●	●
Reset				
Time Pulse	●	●	●	●
Digital I/O	●	●	●	●
Antenna				
Antenna Type	Passive	Passive	Passive	Passive
Antenna Power	Internal	Internal	Internal	Internal
Certification				
Certification	RoHS/REACH/CE(RED)	RoHS/REACH/CE(RED)	RoHS/REACH/CE(RED)	RoHS/REACH/CE(RED)*
Typical Applications	Pet Tracking, Asset Tracking			

o: Optional   * : Under Development

| Wi-Fi Module

Technology	Wi-Fi		
Product	**W58**	**W59**	**W80**
Picture			
Form Factor	LCC, 32PIN	LCC, 40PIN	LCC+LGA, 90PIN
Dimensions(mm)	16.6 *13.0*2.1	16.0 *18.3*2.3	17.0 *24*2.9
Weight(g)	1.0	1.2	TBD
Bluetooth	BT 3.0& BLE4.1	BT 3.0& BLE4.2	BT 5.1&BLE5.0
Temperature	-40℃ to +85℃	-40℃ to +85℃	-40℃ ~ +85℃
General Features			
Frequency band	2.412 ~ 2.484 GHz	2.412 ~ 2.484 GHz 5.17~5.825GHz	2.412 ~ 2.484 GHz 5.17~5.825GHz
Supply Voltage	3.2V~ 3.4V	3.2V~ 3.4V	3.3V ~ 4.25V
WLAN Standard	IEEE 802.11 b/g/n	IEEE 802.11a/b/g/n/ac	IEEE 802.11a/b/g/n/ac/ax
Modulation Mode	CCK/BPSK/QPSK/16QAM/64QAM	DSSS/CCK/OFDM/BPSK/QPSK/16QAM/64QAM/256QAM	CCK/BPSK/QPSK/16QAM/64QAM/256QAM/1024QAM
Encryption Mode	WEP/TKIP/AES/WPA-PSK/WPA2-PSK	WEP/TKIP/AES/WPA-PSK/WPA2-PSK	WPA3
AP (Max Access Point)	30	30	30
Operator Mode	AP/STA	AP/STA	AP/STA
BT Protocol	SPP(BT 3.0)/GATT(BLE 4.1)	SPP(BT 3.0)/GATT(BLE 4.1)	SPP(BT 3.0)/GATT(BLE 4.1)
Data Rate			
802.11b (Mbps)	Max. 11	Max. 11	
802.11g (Mbps)	Max. 54	Max. 54	
802.11n_HT20 (Mbps)	Max. 65	Max. 65	
802.11n_HT40 (Mbps)	Max. 135	Max. 135	
802.11ac_HT40 (Mbps)		Max. 200	
802.11ac_HT80 (Mbps)		Max. 433.3Mbps	
802.11ax_HT80（Mbps）			Max.1.775Gbps
BT 4.1 (Mbps)	Max. 24	Max. 24	
Transmitting Power			
802.11b/11Mbps	18dBm	TBD	TBD
802.11g/54Mbps	15dBm	TBD	TBD
802.11n_HT20/65Mbps	15dBm	TBD	TBD
802.11n_HT40/135Mbps	14dBm	TBD	TBD
Rx Sensitivity			
802.11b/1Mbps	-95dBm	TBD	TBD
802.11b/11Mbps	-94dBm	TBD	TBD
802.11g/6Mbps	-91dBm	TBD	TBD
802.11g/54Mbps	-78dBm	TBD	TBD
802.11n_HT20 MCS0	-90dBm	TBD	TBD
802.11n_HT40 MCS7	-75dBm	TBD	TBD
Interfaces			
SDIO 3.0	*1	*1	
UART	*1	*1	*1
LTE coexistence	*2	*2	*2
BT_EN	*1	*1	*1
WLAN_EN	*1	*1	*1
Antenna	WiFi & BT Antenna	WiFi & BT Antenna *2	WiFi & BT Antenna *2
Certification			
Certification	CE*/RoHS*/REACH*		
Typical Applications	Fleet Management,Telematics,Security,Tracking,Agriculture,Smart City, Smart Health, Router,Gateway		

o: Optional   * : Under Development
W58： Must be worked together with SIM7600X-H.
W59： Must be worked together with SIM7800E.
W80： Must be worked together with SIM8200G.

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