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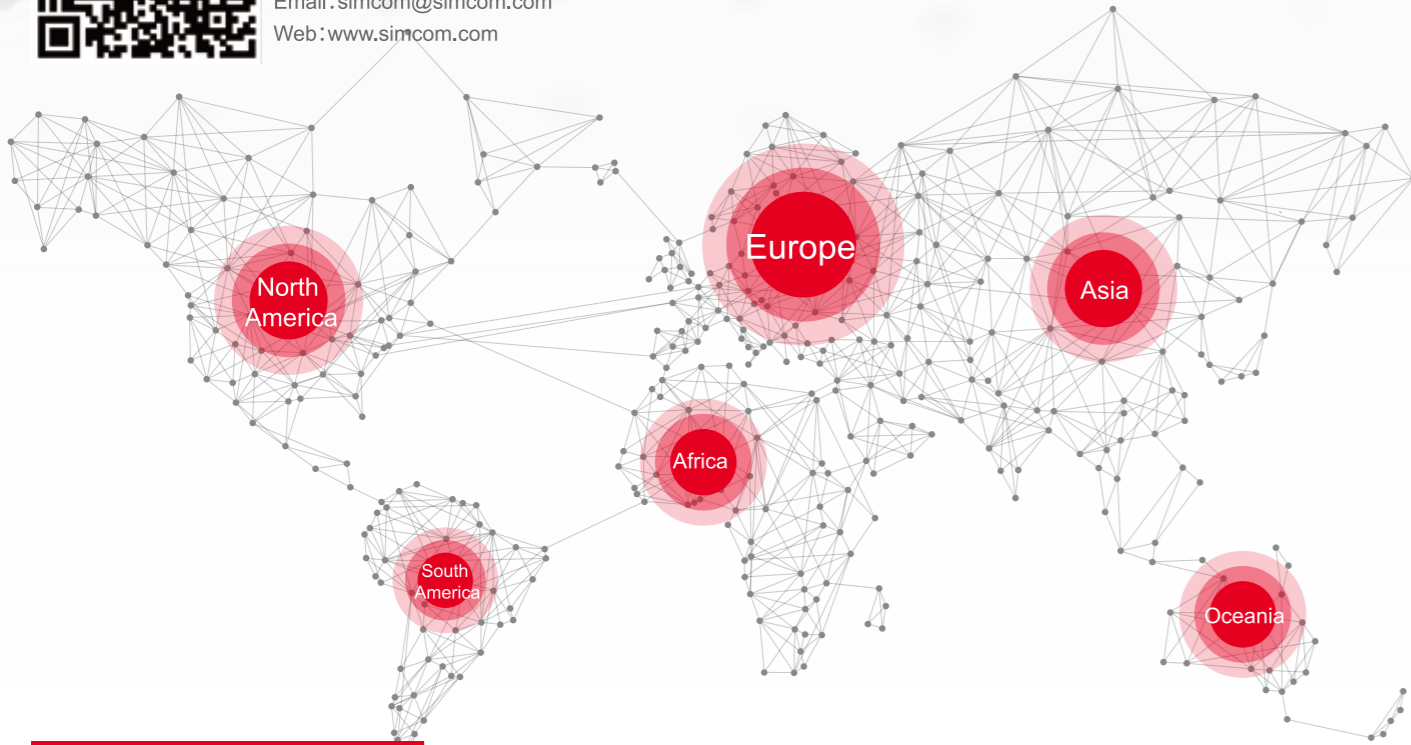
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INVENTING A SMART FUTURE

SIM-B-PC-202301-EN



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- Chongqing
- Nanjing
- Changsha
- Hangzhou
- Fuzhou
- Guangzhou
- Chengdu
- Xian
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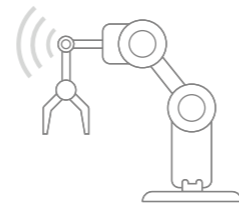
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www.linkedin.com/company/simcom



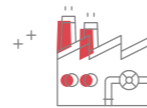
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PRODUCT PORTFOLIO BROCHURE 2023

LTE-A



Smart Industry



4G

Wireless Gateway



Smart Life

5G

C-V2X
Automotive Electronics



LPWA

Urban Refined Management



Smart Energy

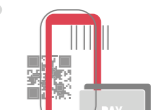
2G

Security Monitoring



Smart

Smart Payment



3G

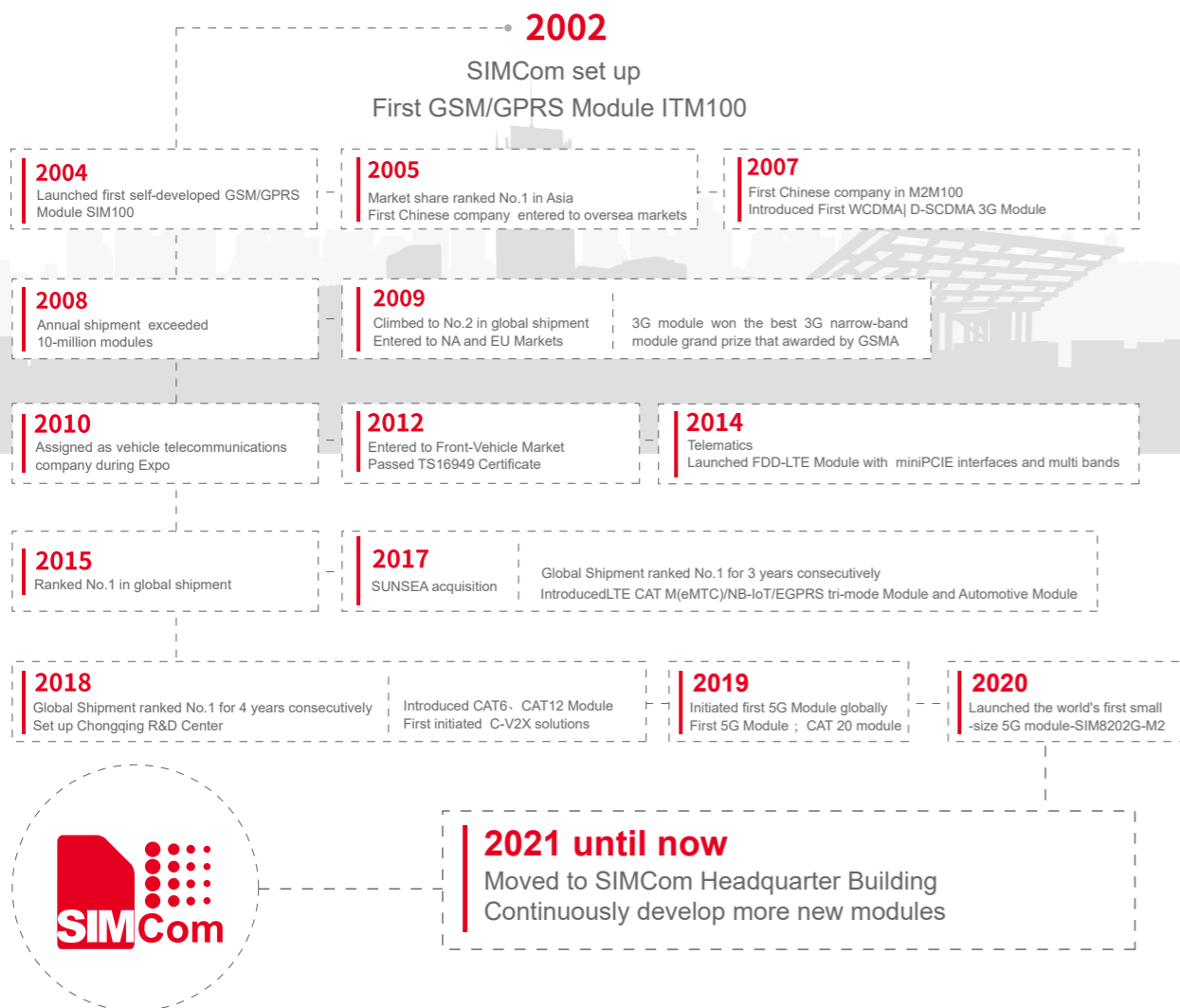


Smart Agriculture



About SIMCom

SIMCom Wireless Solutions Limited is a global leading IoT 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-A, 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 20 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.





5G Module

Technology	3GPP R16		
Product	SIM8262E-M2	SIM8262A-M2	
Picture			
Form Factor	M.2	M.2	
Dimensions(mm)	30.0*42.0*2.3	30.0*42.0*2.3	
Weight(g)	6.8±0.1	6.8±0.1	
Mode	NSA/SA	NSA/SA	
Frequency Bands	5G NR (Sub6G)	n1/n3/n5/n7/n8/n18/n20/n26/n28/n38/n40/n41/n48/n66/n77/n78/n79	n1/n2/n5/n7/n8/n12/n13/n14/n18/n20/n25/n26/n30/n38/n41/n48/n66/n71/n77/n78/n79
	5G NR (mmWave)		
	LTE-FDD	B1,B3,B4,B5,B7,B8,B18,B19,B20,B26,B28,B32,B66	B1,B2,B4,B5,B7,B8,B12,B13,B14,B17,B18,B19,B20,B25,B26,B29,B30,B66,B71
	LTE-TDD	B38,B39,B40,B41,B42,B43,B48	B38,B41,B42,B43,B46,B48
WCDMA	B1,B5,B8	B1/B2/B4/B5/B8	
GNSS	GPS/GLONASS/BeiDou (Dedicated GNSS L1 and L5)	GPS/GLONASS/BeiDou (Dedicated GNSS L1 and L5)	
Temperature	-30°C ~ +70°C	-30°C ~ +70°C	
Electrical Features			
Supply Voltage Range	3.135~4.4V	3.135~4.4V	
Power Consumption (sleep)(mA)	TBD	TBD	
Data Transfer			
mmWave			
Sub-6G	2.4Gbps(DL)/1Gbps(UL)	2.4Gbps(DL)/1Gbps(UL)	
LTE	1.6Gbps(DL)/200Mbps(UL)	1.6Gbps(DL)/200Mbps(UL)	
Software Features			
Protocol	TCP/IP/IPV4/IPV6/Multi - PDP/FTPS /HTTPS/MQTT/DNS	TCP/IP/IPV4/IPV6/Multi - PDP/FTPS /HTTPS/MQTT/DNS	
TLS	SSL3.0/TLS1.0/TLS1.2	SSL3.0/TLS1.0/TLS1.2	
DTMF	● (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	
USB Driver	Microsoft Windows Win7/Win8/Win10/ Linux /Android	Microsoft Windows Win7/Win8/Win10/Linux/Android	
RNDIS	Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10	
NDIS	Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10	
PPP	Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10	
MBIM	Win8/Win10	Win8/Win10	
Firmware Upgrade	USB/FOTA	USB/FOTA	
Interface			
USB	3.1 (2.0)	3.1 (2.0)	
UART	●	●	
(U)SIM Card	1.8V/2.95V	1.8V/2.95V	
PCM	●	●	
GPIO	●	●	
I2C	●	●	
PCIe	●	●	
SPI			
RGMII			
SDIO3.0			
PMI			
ADC			
Antenna	4	4	
Certification			
Certification	CE(RED)* /RoHS*/REACH*/GCF*	FCC*/RoHS*/REACH*/PTCRB*	
Typical Applications	CPE,MIFI,PC, Gateway,Router,UAV	CPE,MIFI,PC, Gateway,Router,UAV	



o : Optional * : Under Developing/On-going/Planning

5G Module

Technology	3GPP R15	
Product	SIM8202E-M2	SIM8202G-M2
Picture		
Form Factor	M.2	M.2
Dimensions(mm)	30.0*42.0*2.3	30.0*42.0*2.3
Weight(g)	6.8±0.1	6.8±0.1
Mode	NSA/SA	NSA/SA
Frequency Bands	5G NR (Sub6G)	n1/n3/n5/n7/n8/n12/n20/n28/n38/n40/n41/n48/n71/n77/n78/n79
	5G NR (mmWave)	n1/n2/n3/n5/n7/n8/n12/n20/n28/n38/n40/n41/n66/n71/n77/n78/n79
	LTE-FDD	B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B26/B28/B29/B71
	LTE-TDD	B34/B38/B39/B40/B41/B42/B43/B48
WCDMA	B1/B3/B5/B8	B1/B2/B3/B4/B5/B8
GNSS	GPS/GLONASS/BeiDou/QZSS/Compass	GPS/GLONASS/BeiDou (Dedicated GNSS L1 and L5)
Temperature	-30°C ~ +70°C	-30°C ~ +70°C
Electrical Features		
Supply Voltage Range	3.135 ~ 4.4V	3.135 ~ 4.4V
Power Consumption (sleep)(mA)	<5mA	<5mA
Data Transfer		
mmWave		
Sub-6G	2.4Gbps(DL)/500Mbps(UL)	2.4Gbps(DL)/500Mbps(UL)
LTE	1Gbps(DL)/200Mbps (UL)	1Gbps(DL)/200Mbps (UL)
Software Features		
Protocol	TCP/IP/IPV4/IPV6/Multi-PDP/FTP/FTPS/HTTP/HTTPS/MQTT/DNS/SSL3.0	TCP/IP/IPV4/IPV6/Multi-PDP/FTPS/HTTPS/MQTT/DNS
TLS	SSL3.0/TLS1.0/TLS1.2	SSL3.0/TLS1.0/TLS1.2
DTMF	● (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
USB Driver	Microsoft Windows Win7/Win8/Win10/ Linux /Android	Microsoft Windows Win7/Win8/Win10/Linux/Android
RNDIS	Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10
NDIS	Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10
PPP	Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10
MBIM	Win8/Win10	Win8/Win10
Firmware Upgrade	USB/FOTA	USB/FOTA
Interface		
USB	3.1 (2.0)	3.1 (2.0)
UART	●	●
(U)SIM Card	1.8V/2.95V	1.8V/2.95V
PCM	●	●
GPIO	●	●
I2C	●	●
PCIe	●	●
SPI		
RGMI		
SDIO3.0		
PMI		
ADC		
Antenna	4	4
Certification		
Certification	RoHS/REACH/CE(RED)/Deutsche Telekom/Anatel/NBTC	RoHS/REACH/CCC/SRRC/CTA/China Mobile*/China Unicom*/China Telecom*/JATE/Telec/KDDI/Docomo/RCM*/CE(RED)
Typical Applications		
Typical Applications	CPE, MIFI, PC, Gateway, Router, UAV	




o : Optional * : Under Developing/On-going/Planning

5G Module

Technology	3GPP R15	
Product	SIM8200EA-M2 (4 ANT)	SIM8200G
Picture		
Form Factor	M.2	LGA
Dimensions(mm)	30.0*52.0*2.3	41.0*43.6*2.8
Weight(g)	8.3±0.1	11.17±0.1
Mode	NSA/SA	NSA/SA
Frequency Bands	5G NR (Sub6G)	n1/n3/n5/n7/n8/n28/n38/n40/n41/n48/n77/n78/n79
	5G NR (mmWave)	n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n40/n41/n66/n71/n77/n78/n79
	LTE-FDD	B1/B3/B5/B7/B8/B18/B19/B26/B28
	LTE-TDD	B34/B38/B39/B40/B41/B42/B43/B48
WCDMA	B1/B3/B5/B8	B1/B2/B3/B4/B5/B8
GNSS	GPS L1/Beidou/glonass/Galileo	GPS/GLONASS/BeiDou (Dedicated GNSS L1 and L5)
Temperature	-30°C ~ +70°C	-30°C ~ +70°C
Electrical Features		
Supply Voltage Range	3.135 ~ 4.4V	3.3V~ 4.4V
Power Consumption (sleep)(mA)	<5mA	<5mA
Data Transfer		
mmWave		
Sub-6G	2.4Gbps(DL)/1Gbps(UL)	2.4Gbps(DL)/1Gbps (UL) (optional up to 4Gbps DL)
LTE	1Gbps(DL)/200Mbps (UL)	1Gbps(DL)/200Mbps (UL)(optional up to 2Gbps DL)
Software Features		
Protocol	TCP/IP/IPV4/IPV6/Multi-PDP/FTP/FTPS/HTTP/HTTPS/MQTT/DNS/SSL3.0	TCP/IP/IPV4/IPV6/ Multi - PDP/FTPS /HTTPS/MQTT/DNS
TLS	SSL3.0/TLS1.0/TLS1.2	SSL3.0/TLS1.0/TLS1.2
DTMF	● (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
USB Driver	Microsoft Windows Win7/Win8/Win10/ Linux /Android	Microsoft Windows Win7/Win8/Win10/Linux/Android
RNDIS	Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10
NDIS	Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10
PPP	Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10
MBIM	Win8/Win10	Win8/Win10
Firmware Upgrade	USB/FOTA	USB/FOTA
Interface		
USB	3.1 (2.0)	3.1 (2.0)
UART	●	●
(U)SIM Card	1.8V/2.95V	1.8V/2.95V
PCM	●	●
GPIO	●	●
I2C	●	●
PCIe	●	●
SPI		
RGMI		
SDIO3.0		
PMI		
ADC		
Antenna	4	8
Certification		
Certification	RoHS/REACH/CE/CCC/SRRC/CTA/China Mobile/China Unicom/China Telecom	RoHS/REACH/CCC/SRRC/CTA/China Mobile/China Unicom/JATE/Telec/KDDI/RCM*/CE(RED)/GCF*/FCC*
Typical Applications		
Typical Applications	CPE, MIFI, PC, Gateway, Router, UAV	



o : Optional * : Under Developing/On-going/Planning

5G Module

Technology		3GPP R16		
Product		SIM8260E	SIM8260A	SIM8260C
Picture				
Form Factor		LGA	LGA	LGA
Dimensions(mm)		41.0*43.6*2.8	41.0*43.6*2.8	41.0*43.6*2.8
Weight(g)		11.17±0.1	11.17±0.1	11.17±0.1
Mode		NSA/SA	NSA/SA	NSA/SA
Frequency Bands	5G NR (Sub6G)	n1/n3/n5/n7/n8/n20/n26/n28/n38/n40/n41/n48/n77/n78/n79	n1/n2/n5/n7/n12/n13/n14/n25/n26/n29/n3/n38/n41/n48/n66/n71/n77/n78/n79	n1/n3/n5*/n7*/n8*/n20*/n28/n38*/n40*/n41/n48*/n77*/n78/n79
	5G NR (mmWave)			
	LTE-FDD	B1/B3/B5/B7/B8/B18/B19/B20/B26/B28/B32	B1/B2/B4/B5/B7/B12/B13/B14/B17/B25/B26/B29/B30/B66/B71	B1/B3/B5/B7/B8/B20/B28
	LTE-TDD	B38/B39/B40/B41/B42/B43/B46*/B48	B38/B41/B42/B43/B46*/B48	B34/B38/B39/B40/B41/B42*/B43*/B48*
	WCDMA	B1/B5/B8	B1/B2/B4/B5	B1/B3*/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)
Temperature		-30°C ~ +70°C	-30°C ~ +70°C	-30°C ~ +70°C
Electrical Features				
Supply Voltage Range		3.3~4.4V	3.3~4.4V	3.3~4.4V
Power Consumption (sleep)(mA)		TBD	TBD	TBD
Data Transfer				
mmWave				
Sub-6G		2.4Gbps(DL)/1Gbps(UL)	2.4Gbps(DL)/1Gbps(UL)	2.1Gbps(DL)/900Mbps(UL)
LTE		1.6Gbps(DL)/200Mbps(UL)	1.6Gbps(DL)/200Mbps(UL)	1Gbps(DL)/200Mbps(UL)
Software Features				
Protocol		TCP/IP/IPV4/IPV6/Multi-PDP/FTPS/HTTPS/MQTT/DNS	TCP/IP/IPV4/IPV6/Multi-PDP/FTPS/HTTPS/MQTT/DNS	TCP/IP/IPV4/IPV6/Multi-PDP/FTPS/HTTPS/MQTT/DNS
TLS		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)
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
USB Driver		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
NDIS		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
MBIM		Win8/Win10	Win8/Win10	Win8/Win10
Firmware Upgrade		USB/FOTA	USB/FOTA	USB/FOTA
Interface				
USB		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
PCM		●	●	●
GPIO		●	●	●
I2C		●	●	●
PCIe		●	●	●
SPI				
RGMI				
SDIO3.0				
PMI				
ADC				
Antenna		4	4	4
Certification				
Certification		CE(RED)*/RoHS*/REACH*/GCF*	FCC*/RoHS*/REACH*/PTCRB*	CCC*/JATE*/TELEC*/CE(RED)*/SRRC*/CTA*/RoHS*/REACH*/RCM*
Typical Applications		CPE, MIFI, PC, Gateway, Router, UAV		


o : Optional * : Under Developing/On-going/Planning

5G Module

Technology		3GPP R16	
Product		SIM8260C-M2	SIM8260G-M2
Picture			
Form Factor		M.2	M.2
Dimensions(mm)		30.0*52.0*2.3	30.0*52.0*2.3
Weight(g)		8.3±0.1	8.3±0.1
Mode		NSA/SA	NSA/SA
Frequency Bands	5G NR (Sub6G)	n1/n3/n5*/n7*/n8*/n20*/n28/n38*/n40*/n41/n48*/n77*/n78/n79	n1/n2/n3/n5/n7/n8/n12/n13/n14/n18/n20/n25/n26/n28/n29/n30/n38/n40/n41/n48/n66/n71/n75/n76/n77/n78/n79
	5G NR (mmWave)		
	LTE-FDD	B1/B3/B5/B7/B8/B20/B28	B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71
	LTE-TDD	B34/B38/B39/B40/B41/B42*	B34/B38/B39/B40/B41/B42/B43/B46/B48
	WCDMA	B1/B3*/B5/B8	B1/B2/B4/B5/B8/B19
GNSS		GPS/GLONASS/BeiDou (Dedicated GNSS L1 and L5)	GPS/GLONASS/BeiDou (Dedicated GNSS L1 and L5)
Temperature		-30°C ~ +70°C	-30°C ~ +70°C
Electrical Features			
Supply Voltage Range		3.135~4.4V	3.135~4.4V
Power Consumption (sleep)(mA)		TBD	TBD
Data Transfer			
mmWave			
Sub-6G		2.1Gbps(DL)/900Mbps(UL)	SA:2.5Gbps(DL)/0.9Gbps(UL) NSA:3.25Gbps(DL)/460Mbps(UL)
LTE		1Gbps(DL)/150Mbps(UL)	1.6Gbps(DL)/200Mbps(UL)
Software Features			
Protocol		TCP/IP/IPV4/IPV6/Multi - PDP/FTPS /HTTPS/MQTT/DNS	TCP/IP/IPV4/IPV6/Multi - PDP/FTPS /HTTPS/MQTT/DNS
TLS		SSL3.0/TLS1.0/TLS1.2	SSL3.0/TLS1.0/TLS1.2
DTMF		● (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
USB Driver		Microsoft Windows Win7/Win8/Win10/ Linux /Android	Microsoft Windows Win7/Win8/Win10/Linux/Android
RNDIS		Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10
NDIS		Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10
PPP		Linux/Win7/Win8/Win10	Linux/Win7/Win8/Win10
MBIM		Win8/Win10	Win8/Win10
Firmware Upgrade		USB/FOTA	USB/FOTA
Interface			
USB		3.1 (2.0)	3.1 (2.0)
UART		●	●
(U)SIM Card		1.8V/2.95V	1.8V/2.95V
PCM		●	●
GPIO		●	●
I2C		●	●
PCIe		●	●
SPI			
RGMI			
SDIO3.0			
PMI			
ADC			
Antenna		5	4
Certification			
Certification		CE(RED)*/RoHS*/REACH*	CE(RED)*/FCC*/RoHS*/REACH*
Typical Applications		CPE, MIFI, PC, Gateway, Router, UAV	




o : Optional * : Under Developing/On-going/Planning

5G Module

Technology	3GPP R16	
Product	SIM8380G-M2	
Picture		
Form Factor	M.2	
Dimensions(mm)	30.0*52.0*2.3	
Weight(g)	8.3±0.1	
Mode	NSA/SA	
Frequency Bands	5G NR (Sub6G)	n1/n2/n3/n5/n7/n8/n12/n13/n14/n18/n20/n25/n26/n28/n29/n30/n38/n40/n41/n48/n66/n71/n75/n76/n77/n78/n79
	5G NR (mmWave)	n257/n258/n260/n261
	LTE-FDD	B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71
	LTE-TDD	B34/B38/B39/B40/B41/B42/B43/B46/B48
	WCDMA	B1/B2/B4/B5/B8/B19
GNSS	GPS/GLONASS/BeiDou (Dedicated GNSS L1 and L5)	
Temperature	-30°C ~ +70°C	
Electrical Features		
Supply Voltage Range	3.135 ~ 4.4V	
Power Consumption (sleep)(mA)	TBD	
Data Transfer		
mmWave	8.76Gbps(DL)/2.69Gbps(UL)	
Sub-6G	SA:6.2Gbps(DL)/0.9Gbps(UL) NSA:4.92Gbps(DL)/660Mbps(UL)	
LTE	2Gbps(DL)/200Mbps(UL)	
Software Features		
Protocol	TCP/IP/IPV4/IPV6/Multi - PDP/FTPS /HTTPS/MQTT/SDNS	
TLS	SSL3.0/TLS1.0/TLS1.2	
DTMF	● (Sending and Receiving)	
FOTA	●	
VoLTE/CSFB/VoNR*	●	
Android RIL	Android 6.0/7.0/8.0/9.0	
USB Driver	Microsoft Windows Win7/Win8/Win10/Linux/Android	
RNDIS	Linux/Win7/Win8/Win10	
NDIS	Linux/Win7/Win8/Win10	
PPP	Linux/Win7/Win8/Win10	
MBIM	Win8/Win10	
Firmware Upgrade	USB/FOTA	
Interface		
USB	3.1 (2.0)	
UART	●	
(U)SIM Card	1.8V/2.95V	
PCM	●	
GPIO	●	
I2C	●	
PCIe	●	
SPI		
RGMI		
SDIO3.0		
PMI		
ADC		
Antenna	8	
Certification		
Certification	CE(REDF)/FCC/RoHS/REACH*	
Typical Applications	CPE,MIFI,PC, Gateway,Router,UAV	





o : Optional * : Under Developing/On-going/Planning

LPWA Module

Technology	CAT-M&NB-IoT&GSM	NB-IoT&GNSS		
Product	SIM7000X	SIM7070X	Y7080E	
Picture				
Form Factor	LCC, 68PIN	LCC ,68PIN	LCC+LGA,77PIN	
Dimensions(mm)	24.0*24.0*2.6	24.0*24.0*2.3	17.6*15.7*2.4	
Weight(g)	3±0.1	2.9±0.1	1.2±0.1	
Frequency Bands(MHz)	- A (North America)	CAT-M1&CAT-NB1: B2/B4/B12/B13		
	- 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/B73/B85/B87/B88 CAT-NB2:B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B28/B31/B66/B73/B85/B87/B88 GSM/GPRS: 850/900/1800/1900MHz	Cat-NB1/NB2 B3/B5/B8/B20/B28
	- JC(Japan)	CAT-M1:B1/B3/B5/B8/B18/B19/B26 CAT-NB1:B1/B3/B5/B8/B18/B19/B26 (no GPRS)		
	- 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	
GNSS	o	o	o	
Temperature	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	
Electrical Features				
Supply Voltage Range	3.0V~ 4.3V	3.2V-4.2V	3.0V-4.2V(NB+GNSS) 2.2V-4.2V(NB only)	
Power Consumption	PSM	9uA@PSM	3.2uA@PSM	
	Sleep	1.2mA	0.8mA	
	Max Power	138mA@ B5	114mA@ B5	0.8mA
Network Registration Time(s)	12(Preferred band)	12(Preferred band)	12(Preferred band)	
Receive Sensitivity	-108dB@eMTC; -126dB@NB-IoT 15KHz	-108dB@eMTC; -126dB@NB-IoT 15KHz	-128dbm@NBlot 15kHz	
Data Transfer				
LTE CAT.NB(Kbps)	34(DL)/66(UL)	127(DL)/158.5(UL)	127(DL)/159(UL)	
LTE CAT.M1(Kbps)	300(DL)/375(UL)	589(DL)/1119(UL)	N/A	
EDGE(Kbps)	236.8(DL)/236.8(UL)	236.8(DL)/236.8(UL)	N/A	
GPRS(Kbps)	85.6(DL)/85.6(UL)	85.6(DL)/85.6(UL)	N/A	
SMS	●	●	●	
Software Features				
Protocols	TCP/UDP/LWM2M/COAP/MQTT/FTP/HTTP/TLS/DTLS/NTP/Ayla Cloud	TCP/UDP/HTTP/HTTPS/TLS/DTLS/PING/LWM2M/COAP/MQTT/Ayla Cloud	TCP/UDP/HTTP/DNS/NTP/PING/TLS*/DTLS*/LWM2M*/COAP/MQTT/OneNET/AEP/DFOTA	
VoLTE	o	●		
GSM Voice				
Embedded AT	●	●	●	
FOTA	●	●	●	
TLS	●	●	●	
USB Driver	Microsoft Windows 2000/XP/Vista/Win7/Win8/Win10/Linux			
Firmware Upgrade	USB	USB	UART	
Interfaces				
UART	Two wire serial port		●	
	Full Function Uart	●		
USB	●	●		
PCM	o	o		
Status Indicator	●	●	●	
GPIO	●	●	●	
SPI	o	●	●	
I2C	●	●	●	
Certification				
Certification	A: RoHS/REACH/GCF/FCC/PTCRB/AT&T/Verizon/IC C: RoHS/REACH/CCC/NAL/SRRC/Mobile/Union/Telecom E: RoHS/REACH/KC/KT/LGU+*/IMDA/RCM/Telstra/Spark/CE(REDF)/GCF/Deutsche Telekom/Vodafone* JC: RoHS/REACH/JATE/Telec/Docomo/KDDI G: RoHS/REACH/CCC/RCM/CE(REDF)/GCF/Deutsche Telekom/UKCA*/FCC/IC/OCD/Anatel	E:RoHS/REACH/CE(REDF)/FCC*/OCD/Anatel)* G:RoHS/REACH/CCC/NAL/SRRC/NCC/JATE/Telec/KC*/RCM/Telstra*/CE(REDF)/GCF/Orange*/TIM*/Deutsche Telekom/ Telefonica*/Vodafone*/UKCA/FCC/PTCRB/AT&T/Verizon/ T-mobile/US Cellular/IC/OCD/Anatel)	RoHS/REACH/CTA/SRRC/China Mobile*/ China Unicom*/China Telecom/CE(REDF)/ UKCA/GCF/Orange*/TIM*/Deutsche Telekom*/ Telefonica*/Vodafone*	
Typical Applications	Home Security and Automation,Telematics,Smart Meters,Vending,Fleet Management,Asset Tracking			




o : Optional * : Under Developing/On-going/Planning

LPWA Module

Technology	CAT-M & NB-IoT		NB-IoT	
Product	SIM7080G	SIM7090G	SIM7022	Y7028
Picture				
Form Factor	LCC+LGA,77PIN	LGA, 77PIN	LCC, 42PIN	LCC 44PIN
Dimensions(mm)	17.6*15.7*2.4	14.8*12.8*1.8	17.6*15.7*2.3	17.6*15.7*2.1
Weight(g)	1.4±0.1	1.2±0.1	1.3±0.1	1.0±0.2
Frequency Bands(MHz)	- A (North America) - E(Europe/Africa/Australia/Southeast Asia) - JC(Japan) - G(Global)			CAT-NB1/NB2 B3/B5/B8/B20/B28
GNSS	o	o	N/A	N/A
Temperature	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C
Electrical Features				
Supply Voltge Range	2.7V-4.8V	2.7V-4.8V	2.1V-4.3V	2.2V ~ 4.2V
Power Consumption	PSM 3.2uA@PSM Sleep 0.8mA Max Power 114mA@ B5	3.2uA@PSM 0.8mA 114mA@ B5	0.8uA@PSM 2uA 4.6 mA	1.5 uA@PSM / 0.58 mA
Network Registration Time(s)	12(Preferred band)	12(Preferred band)	12(Preferred band)	12(Preferred band)
Receive Sensitivity	-108dB@eMTC-126dB@NB-IoT15KHz	-108dB@eMTC-126dB@NB-IoT15KHz	-126dB@NB-IoT 15KHz	-128dbm@NBlot 15kHz
Data Transfer				
LTE CAT.NB(Kbps)	127(DL)/158.5(UL)	127(DL)/158.5(UL)	127Kbps(DL)/159Kbps(UL)	127(DL)/159(UL)
LTE CAT.M1(Kbps)	589(DL)/1119(UL)	589(DL)/1119(UL)	N/A	N/A
EDGE(Kbps)	N/A	N/A	N/A	N/A
GPRS(Kbps)	N/A	N/A	N/A	N/A
SMS	•	•	•	•
Software Features				
Protocols	TCP/UDP/HTTP/HTTPS/TLS/DTLS/PING/LWM2M/COAP/MQTT/Ayla Cloud	TCP/UDP/HTTP/HTTPS/TLS/DTLS/PING/LWM2M/COAP/MQTT/Ayla Cloud	TCP/UDP/HTTP/TLS*DTLS*/DNS/NTP/PING/LWM2M/COAP/MQTT/DFOTA*	TCP/UDP/HTTP/DNS/NTP/PING/TLS*/DTLS*/LWM2M*/COAP/MQTT/OneNET/AEP/DFOTA
VoLTE	•	•		
GSM Voice	•	•		
Embedded AT	•	•	•	•
FOTA	•	•	•	•
TLS	•	•	•	•
USB Driver				
Firmware Upgrade	USB	USB	UART	UART
Interfaces				
UART	Two wire serial port Full Function Uart	•	•	•
USB	•	•		
PCM	o	o		
Status Indicator	•	•	•	•
GPIO	•	•	•	•
SPI	•	•	•	•
I2C	•	•	•	•
Certification				
Certification	RoHS/REACH/NCC/JATE/Telec/Docomo*/KDDI/Softbank/RCM/CE(RED)/GCF/Orange/TIM/Deutsche Telekom/Telefonica/UKCA/FCC/PTCRB/AT&T/Verizon*/T-mobile/US Cellular/IC/OCD(Anatel)/KC	RoHS/REACH/JATE/Telec/RCM/CE(RED)/GCF/Deutsche Telekom/FCC/PTCRB/AT&T/Verizon*/T-mobile/US Cellular/IC/OCD(Anatel)	RoHS/REACH/RCM/CE/FCC/GCF/Deutsche Telekom/Telefonica*/TIM/Vodafone*/UKCA	RoHS/REACH/CE
Typical Applications	Home Security and Automation, Telematics, Smart Meters, Vending, Fleet Management, Asset Tracking			



o : Optional * : Under Developing/On-going/Planning

Automotive Module

Technology	5G+C-V2X	ITS AP	4G
Product	SIM8800(CE/E)	SIM8150	SIM7800X(CE/E)
Picture			
Form Factor	LCC+LGA, 524PIN	LGA, 208PIN	LGA, 282 PIN
Dimensions(mm)	53*54.5*3.45	33.0 *33.5* 3.3	34.0*40.0*3.1
Weight(g)	TBD	TBD	7.8±0.1
Frequency Bands	CE: 5G FDD: n1/n3/n28 5G TDD: n41/n78/n79 LTE-FDD: B1/B3/B5/B7/B8 LTE-TDD: B34/B38/B39/B40/B41 WCDMA: B1/B8 GSM: 900/1800MHz E: 5G FDD: n1/n3/n28/n20/n28 5G TDD: n41/n78/n79 LTE-FDD: B1/B3/B5/B7/B8/B20/B28/B32 LTE-TDD: B38/B40/B41/B42 WCDMA: B1/B3/B5/B8 GSM: 900/1800/1900 MHz	N/A	CE:LTE-FDD: B1/B3/B5/B8 LTE-TDD: B38/B39/B40/B41 WCDMA: B1/B8 TD-SCDMA: B34/B39 CDMA: BCD GSM: 900/1800 MHz E:LTE-FDD: B1/B3/B5/B7/B8/B20/B28/B32 LTE-TDD: B38/B40/B41 WCDMA: B1/B5/B8 GSM: 900/1800 MHz BeiDou/GPS/GLONASS/Galileo/QZSS
GNSS	BeiDou/GPS/GLONASS/Galileo	N/A	N/A
Bluetooth	BT5.2	N/A	BLE4.2(with W59)
Temperature	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C
Electrical Features			
Supply Voltge Range	3.3V~ 4.3V	3.3V~4.3V	3.3V~ 4.3V
Power Consumption (sleep)(mA)	TBD	TBD	1.8mA@GSM,BS_PA_MFRMS=2 3.3mA@WCDMA, DRX=9; 1.84mA@LTE-FDD
Data Transfer			
GPRS Slot	class 12	N/A	class 12
5G(Gbps)	2.4Gbps (DL)/ 900 Mbps (UL)	N/A	N/A
LTE(Mbps)	LTE-FDD: 1.6 Gbps (DL)/ 200 Mbps (UL) LTE-TDD: 1.4 Gbps (DL)/ 120 Mbps (UL) DC-HSPA: max 42 Mbps HSUPA: max 5.76 Mbps WCDMA: max 384 kbps (DUUL)	N/A	LTE CAT 4: 150 (DL)/50(UL)
WCDMA/HSPA/HSPA+(Mbps)		N/A	42.2(DL)/11.5(UL)
TD-SCDMA(Mbps)	/	N/A	2.8(DL)/2.2(UL)
CDMA EV-DO(Mbps)	/	N/A	3.1(DL)/1.8(UL)
EDGE(Kbps)	296(DL)/236.8(UL)	N/A	296(DL)/236.8(UL)
Software Features			
Protocol	TCP/UDP/PPP/PING/FTP/HTTPS/HTTP/S/SMTP/SSL/TLS/MMS/NTP/FILE/QMI	N/A	TCP/IP/PPPoE/IPv6/MQTT/FTP/HTTPS/HTTP/SMTP/SNMP/SNTP/NTPI/PING/SSL
eCall	•	N/A	•
Open Linux	•	•	•
Multi-APN	•	N/A	•
SDIO	•	•	•
UART2	•	•	•
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 6.0/7.0/8.0/9.0/10.0	N/A	Android 2.3/4.0/5.0/6.0/7.0
Security	SELinux/Trustzone/Secure boot	•	SELinux/Trustzone/Secure boot
Routing policy	5G, WIFI and Ethernet port	N/A	4G, WIFI and Ethernet port
USB Driver	Microsoft Windows2000/XP/Vista/Win7/Win8/Win10/ Linux /Android	N/A	Microsoft Windows2000/X-P/Vista/Win7/Win8/Win10/ Linux /Android
Android RIL	Android 2.4/4.0/5.0/6.0/7.0	N/A	Android 2.4/4.0/5.0/6.0/7.0
NDIS/RNDIS	•	N/A	•
Embedded AT	•	N/A	•
Firmware Upgrade	USB /FOTA	USB	USB /FOTA
Wi-Fi	2.4G/5G	N/A	2.4G/5G(with W59)
Interfaces			
SGMII	N/A (RGMII: 10M/100M/1000M Ethernet)	N/A	10M/100M/1000M Ethernet
UART	3*UART	•	3*UART
USB	1*2.0/3.1	1*2.0/3.1; 1* USB2.0 only for debug	1*2.0
ADC	2*ADC	2*ADC	3*ADC
OTG	•	N/A	•
HSIC	•	N/A	•
PCIE	•	•	N/A
PCM	1	N/A	1*12S
Analog Audio	o	N/A	o
GPIO	11*GPIO	10*GPIO	5*GPIO
SDIO	•	•	SDIO3.0 (200MHz Max)
SD Card	SD card(1.8V or 3.0V)	SD3.0	SD3.0 (128G Max)
SPI	1*SPI	2*SPI	1*SPI
I2C	1*I2C	2*I2C	1*I2C
Antenna	4*Main&1*2*V2X&1*GNSS&2*DSDA	N/A	1*Main&1*Diversity&1*GNSS
Certification			
Certification	CE: 3C/SRRC/CTA*/RoHS*/REACH* E: CE(RED)*/RoHS*/REACH*	RoHS*/REACH*	CE: 3C/SRRC/CTA*/RoHS*/REACH* E: CE(RED)*/RoHS*/REACH*
Typical Applications	Vehicle Tracking, OBD, Vehicle DVR, T-BOX		




o : Optional * : Under Developing/On-going/Planning

LTE-A Module

Technology	LTE CAT12		
Product	SIM7912X(E/A/G)-M2(X12)	SIM7912X(E/A)(X12)	
Picture			
Form Factor	M.2	LGA	
Dimensions(mm)	42.0*30.0*2.3	39.5*37.0*2.8	
Weight(g)	6.1±0.1	6.1±0.1	
Frequency Bands	- E(Europe/Africa/Australia/Southeast Asia)	LTE-FDD: B1/B3/B5/B7/B8/B20/B28/B32 LTE-TDD: B34/B38/B39/B40/B41/B42*/B43*/B46*/B48* WCDMA: B1/B3/B5/B8	LTE-FDD: B1/B3/B5/B7/B8/B20/B28/B32 LTE-TDD: B34/B38/B39/B40/B41/B42*/B43*/B46*/B48* WCDMA: B1/B3/B5/B8
	-SA(New Zealand/Australia/South America)	LTE-FDD: B2/B4/B5/B7/B12/B13/B14/B17/B25/B26/B28/B66 LTE-TDD: B40/B41/B42*/B43*/B46*/B48* WCDMA: B2/B4/B5	LTE-FDD: B2/B4/B5/B7/B12/B13/B14/B17/B25/B26/B28/B66/B71 LTE-TDD: B40/B41/B42*/B43*/B46*/B48* WCDMA: B2/B4/B5
	-G(Global)	LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71* LTE-TDD: B34/B38/B39/B40/B41/B42*/B43*/B46*/B48* WCDMA: B1/B2/B3/B4/B5/B8/B9/B19	
GNSS	Beidou/GPS/GLONASS/QZSS	Beidou/GPS/GLONASS/Galileo/QZSS	
Temperature	-30°C ~ +70°C	-30°C ~ +70°C	
Electrical Features			
Supply Voltage Range	3.135V~ 4.4V, 3.7V(typ)	3.1V~ 4.4V, 3.3V(typ)	
Power Consumption (sleep)(mA)	TBD	TBD	
Data Transfer			
LTE CAT 6			
LTE CAT 12	600Mbps(DL)/150Mbps (UL)	600Mbps(DL)/150Mbps (UL)	
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*	
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	USB/FOTA	
Interface			
USB3.0	1	1	
PCIE	1	1	
PCM	1	1	
GPIO	1	1	
I2C	1	1	
Antenna	3	5	
Certification			
Certification	FCC*/IC*/CE(RED)*/RCM*/RoHS*/REACH*	RoHS*/REACH*/RCM*/CE(RED)*/FCC*	
Typical Applications	Video Surveillance, Gateway, Industrial PDA, Router		



o : Optional * : Under Developing/On-going/Planning

LTE-A Module

Technology	LTE CAT6			
Product	SIM7906X(E/A)(X12)	SIM7906X(E/A/G)-M2(X12)	A7906E-M2	
Picture				
Form Factor	M.2	M.2	M.2	
Dimensions(mm)	39.5*37.0*2.8	42.0*30.0*2.3	42.0*30.0*2.3	
Weight(g)	6.1±0.1	6.1±0.1	6.1±0.1	
Frequency Bands	- E(Europe/Africa/Australia/Southeast Asia)	LTE-FDD: B1/B3/B5/B7/B8/B20/B28/B32 LTE-TDD: B34/B38/B39/B40/B41/B42*/B43*/B46*/B48* WCDMA: B1/B3/B5/B8	LTE-FDD: B1/B3/B5/B7/B8/B20/B28/B32 LTE-TDD: B34/B38/B39/B40/B41/B42*/B43*/B46*/B48* WCDMA: B1/B3/B5/B8	LTE-FDD: B1/B3/B5/B7/B8/B20/B28/B32 LTE-TDD: B38/B40/B41 DL 2XCA: 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) WCDMA: B1/B3/B5/B8
	-SA(New Zealand/Australia/South America)	LTE-FDD: B2/B4/B5/B7/B12/B13/B14/B17/B25/B26/B28/B66/B71 LTE-TDD: B40/B41/B42*/B43*/B46*/B48* WCDMA: B2/B4/B5	LTE-FDD: B2/B4/B5/B7/B12/B13/B14/B17/B25/B26/B28/B66 LTE-TDD: B40/B41/B42*/B43*/B46*/B48* WCDMA: B2/B4/B5	
	- G(Global)	LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71* LTE-TDD: B34/B38/B39/B40/B41/B42*/B43*/B46*/B48* WCDMA: B1/B2/B3/B4/B5/B8/B9/B19	LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71* LTE-TDD: B34/B38/B39/B40/B41/B42*/B43*/B46*/B48* WCDMA: B1/B2/B3/B4/B5/B8/B9/B19	
GNSS	Beidou/GPS/GLONASS/Galileo/QZSS	Beidou/GPS/GLONASS/Galileo/QZSS	Beidou/GPS/GLONASS/Galileo/QZSS	
Temperature	-30°C ~ +70°C	-30°C ~ +70°C	-30°C ~ +70°C	
Electrical Features				
Supply Voltage Range	3.1V~ 4.4V, 3.3V(typ)	3.1V~ 4.4V, 3.3V(typ)	3.1V~ 4.4V, 3.3V(typ)	
Power Consumption (sleep)(mA)	TBD	TBD	TBD	
Data Transfer				
LTE CAT 6	300Mbps(DL)/50Mbps (UL)	300Mbps(DL)/50Mbps (UL)	300Mbps(DL)/50Mbps (UL)	
LTE CAT 12				
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*/DNS*	
TLS	SSL3.0/TLS1.0/TLS1.2	SSL3.0/TLS1.0/TLS1.2	SSL3.0*/TLS1.0*	
FOTA	•	•	•	
Android RIL	Android 6/7/8/9	Android 6/7/8/9	Android 6/7/8/9*	
USB Driver	Microsoft Windows2000/XP/Vista/Win7/Win8/Win10/Linux /Android	Microsoft Windows 2000/XP/Vista/Win7/Win8/Win10/Linux /Android	Microsoft Windows2000/XP/Vista/Win7/Win8/Win10/Linux /Android	
Firmware Upgrade	USB/FOTA	USB/FOTA	USB	
Interface				
USB3.0	1	1	1	
PCIE	1	1	1	
PCM	1	1	1	
GPIO	1	1	1	
I2C	1	1	1	
Antenna	5	4	3	
Certification				
Certification	RoHS*/REACH*/RCM*/CE(RED)*/FCC*/Deutsche Telekom*	RoHS*/REACH*/RCM*/CE(RED)*/FCC*/Deutsche Telekom*	RoHS/REACH/CCC/CTA/SRRC/CE(RED)	
Typical Applications	Video Surveillance, Gateway, Industrial PDA, Router			



o : Optional * : Under Developing/On-going/Planning

Smart Module

Technology	Smart Module	
Product	SIM8905X(C/E/A-R2)	SIM8400CE/EU
Picture		
Form Factor	LCC+LGA 210PIN	LCC+LGA 168PIN
Dimensions(mm)	40.5*40.5*2.8	30*40*2.65
Weight(g)	10.6±0.1	9.6±0.1
Frequency Bands	CE (China) LTE-FDD: B1/B3/B5/B8 LTE-TDD: B34/B38/B39/B40/B41 WCDMA: B1/B5/B8 TD-SCDMA:B34/B39 EVDO/CDMA:BC0 EDGE/GPRS/GSM: 850/900/1800 MHz A/NA(North America) LTE-FDD: B2/B4/B5/B7/B12/B13/B17/B25/B26 LTE-TDD: B41 E (Europe/Middle East/Africa/Korea/Thailand) LTE-FDD: B1/B3/B5/B7/B8/B20 LTE-TDD: B38/B40/B41 WCDMA: B1/B2/B5/B8 GSM: 850/900/1800/1900 MHz W: 2.4G/5G, 802.11 b/g/n/a BT4.1	CE (China) LTE-FDD: B1/B3/B5/B8 LTE-TDD: B34/B38/B39/B40/B41 WCDMA: B1/B5/B8 TD-SCDMA: B1/B5/B8 EDGE/GPRS/GSM: 900/1800 MHz EU (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
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
CPU	MSM8909, Quad ARM Cortex-A7 cores up to 1.1GHz	SL8521E, Dual Arm Cortex-A53 cores up to 1.3GHz
GPU		Mali T820 MP1 at 384MHz
Memory	1GB LPDDR3 RAM +8GB eMMC Flash	4GB eMMC + 2GB LPDDR2
Supply Voltage Range	3.4V~ 4.4V	3.4V~ 4.4V
Temperature	-35°C ~ +75°C	-35°C ~ +75°C
Data Transfer		
LTE(Mbps)	LTE CAT 4 - 150(DL)/50(UL)	LTE CAT 4 - 150(DL)/50(UL)
WCDMAHSPA/HSPA+(Mbps)	42.2(DL)/5.76(UL)	21(DL)/11(UL)
TD-SCDMA(Mbps)	2.8(DL)/2.2(UL)	
CDMA EV-DO(Mbps)	3.1(DL)/1.8(UL)	
CDMA 1xRTT(Kbps)	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	SPI port supports QVGA 320*240 Max MIPI port supports VGA 800*480 Max
Camera	MIPI_CSI * 2 Primary camera: 2-lane MIPI_CSI, up to 8MP Secondary camera: 1-lane MIPI_CSI, up to 5MP	MIPI_CSI *1 up to 5MP
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: 720p 30fps(H.264,MPEG4) Decode: 720p 30fps(H.264,MPEG4,H.263,VP8)
Analog Audio	2 Inputs &3 Outputs	3 Inputs &3 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	Support MP3/AAC/AAC+/- AMR-NB/AMR WB/PCM/ADPCM decoding Audio recording codec support MP3/AMR/ACC format
Interfaces		
UART	*2	*3
USB	USB2.0	USB2.0
UIM	*2	*2
GPIO	At Least 21*GPIO	At Least 40*GPIO
SD Card	•	•
SPI	•	•
I2C	*3	*1
ADC	*1	*2
Motor Drive	*1	*1
WLED Sink		
Flash Drive		
Antenna	Main&Diversity&GNSS&Wi-Fi/BT	Main&Diversity&GNSS&Wi-Fi/BT
Software Features		
Operating System	Android 5.1/7.1/8.1/Linux 3.18	linux(Yacto)
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 4.2
Dual LCD		
DSDS	•	•
Charge Function	•	•
Firmware Upgrade	USB/OTA/TF card	USB/OTA/TF card
Certification		
Certification	A-R2:RoHS/REACH/FCC/PTCRB E:RoHS/REACH/CE(RED)	RoHS/REACH/CE*
Typical Applications	POS, Security, Networking, Telematics,Retail	



○:Optional * : Under Developing/On-going/Planning

Smart Module

Technology	Smart Module	
Product	SIM8500E/CE	SIM8502X(CE/EA/SA)
Picture		
Form Factor	LCC+LGA 286PIN	LCC+LGA 286PIN
Dimensions(mm)	40.5*40.5*2.85	40.5*40.5*2.85
Weight(g)	10.6±0.1	10.6±0.1
Frequency Bands	CE (China) LTE-FDD: B1/B3/B5/B8 LTE-TDD: B34/B38/B39/B40/B41 UMTS/HSDPA/HSPA+ B1/B5/B8 EDGE/GPRS/GSM: 900/1800 MHz E (Europe/Middle East/Africa/Korea/Thailand) LTE-FDD: B1/B3/B5/B7/B8/B20/B28 LTE-TDD: B38/B40/B41 WCDMA: B1/B2/B4/B5/B8 GSM: 850/900/1800/1900 MHz	CE (China) LTE-FDD: B1/B3/B5/B8 LTE-TDD: B34/B38/B39/B40/B41 UMTS/HSDPA/HSPA+ B1/B5/B8 EDGE/GPRS/GSM: 900/1800 MHz EA (Europe/Middle East/Africa/Korea/Thailand) LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B20/B28 LTE-TDD: B38/B40/B41 WCDMA: B1/B2/B4/B5/B8 GSM: 850/900/1800/1900 MHz SA (New Zealand/Australia/South America) LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B20/B28 LTE-TDD: B40 WCDMA: B1/B2/B5/B8 GSM: 850/900/1800/1900 MHz
GNSS	BeiDou/GPS/GLONASS	BeiDou/GPS/GLONASS
WLAN	2.4G 802.11 b/g/n(a,ac Optional)	2.4G/5G, 802.11a/b/g/n/ac
CPU	SL8541E, Quad ARM Cortex-A53 cores up to 1.4GHz	SL8541E, Quad ARM Cortex-A53 cores up to 1.4GHz
GPU	Mali-T820 MP1 GPU at 680 MHz	Mali-T820 MP1 GPU at 680 MHz
Memory	1GB LPDDR3 RAM +8GB eMMC Flash	1GB LPDDR3 RAM +8GB eMMC Flash
Supply Voltage Range	3.5V~ 4.2V	3.5V~ 4.2V
Temperature	-35°C ~ +75°C	-35°C ~ +75°C
Data Transfer		
LTE(Mbps)	LTE CAT 4 - 150(DL)/50(UL)	LTE CAT 4 - 150(DL)/50(UL)
WCDMAHSPA/HSPA+(Mbps)	21(DL)/11(UL)	21(DL)/11(UL)
TD-SCDMA(Mbps)		
CDMA EV-DO(Mbps)		
CDMA 1xRTT(Kbps)		
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 HD(720P), 60fps
Camera	MIPI_CSI * 2 Primary camera: 4-lane MIPI_CSI, up to 13MP Secondary camera: 4-lane MIPI_CSI, up to 8MP	MIPI_CSI * 2 Primary camera: 4-lane MIPI_CSI, up to 13MP Secondary camera: 4-lane MIPI_CSI, up to 8MP
Video Performance	Encode: 1080p 30fps(H.264,MPEG4,H.263) Decode: 1080p 30fps(H.264,MPEG4,VP8)	Encode: 1080p 30fps(H.264,MPEG4,H.263) Decode: 1080p 30fps(H.264,MPEG4,VP8)
Analog Audio	3 Inputs &3 Outputs	3 Inputs &3 Outputs
Audio Codec	Voice Codec: GSM-FR; GSM-EFR; GSM-HR; AMR-NB; AMR-WB; EVS-NB; EVS-WB; EVS-SWB Audio Codec: MP3 AAC; AAC+ AMR-NB	Voice Codec: GSM-FR; GSM-EFR; GSM-HR; AMR-NB; AMR-WB; EVS-NB; EVS-WB; EVS-SWB Audio Codec: MP3 AAC; AAC+ AMR-NB
Interfaces		
UART	*2	*2
USB	USB2.0	USB2.0
UIM	*2	*2
GPIO	At Least 25*GPIO	At Least 25*GPIO
SD Card	•	•
SPI	•	•
I2C	*4	*4
ADC	*1	*1
Motor Drive	*1	*1
WLED Sink		
Flash Drive		
Antenna	Main&Diversity&GNSS&Wi-Fi/BT	Main&Diversity&GNSS&Wi-Fi/BT
Software Features		
Operating System	Android 10	Android 10
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/4.2 BLE	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	RoHS*/REACH*/CCC*/CE*	RoHS*/REACH*/CCC*/CE*
Typical Applications	POS, Security, Networking, Telematics,Retail	



○:Optional * : Under Developing/On-going/Planning

Smart Module

Technology	Smart Module	
Product	SIM8580X(CE/EA)	SIM6600X(CE/EA)
Picture		
Form Factor	LCC+LGA 344PIN	LCC+LGA 286PIN
Dimensions(mm)	44.1*45.6*2.9	40.5*40.5*2.85
Weight(g)	12.0±0.1	10.6±0.1
Frequency Bands	CE (China) LTE-FDD: B1/B3/B5/B8 LTE-TDD: B34/B38/B39/B40/B41 UMTS/HSDPA/HSPA+: B1/B5/B8 GSM: 900/1800MHz EA (Europe/Middle East/Africa/Korea/Thailand) LTE-FDD: B1/B3/B5/B7/B8/B20/B28 LTE-TDD: B38/B40/B41 WCDMA: B1/B5/B8 GSM: 850/900/1800 MHz	CE (China) LTE-FDD: B1/B3/B5/B8 LTE-TDD: B34/B38/B39/B40/B41 UMTS/HSDPA/HSPA+: B1/B8 EDGE/GPRS/GSM: 900/1800 MHz EA (Europe/Middle East/Africa/Korea/Thailand) LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B20/B28 LTE-TDD: B38/B40/B41 WCDMA: B1/B2/B4/B5/B8 GSM: 850/900/1800/1900
GNSS	BeiDou/GPS/GLONASS	BeiDou/GPS/GLONASS
WLAN	2.4G/5G, 802.11a/b/g/n/ac	2.4G/5G, 802.11a/b/g/n/ac
CPU	SL8581E, Octa ARM Cortex-A55 cores up to 1.6GHz.	MTK8766, Quad ARM Cortex-A53 cores up to 2.0GHz
GPU	PowerVR Fentale GE8322 at 550 MHz	GE8300 GPU at 660MHz
Memory	2GB LPDDR4 RAM +16GB eMMC Flash	2GB LPDDR3 RAM +16GB eMMC Flash
Supply Voltage Range	3.5V~ 4.2V	3.4V~ 4.4V
Temperature	-35 C ~ +75 C	-35 C ~ +75 C
Data Transfer		
LTE(Mbps)	LTE CAT 4 - 150(DL)/50(UL)	LTE CAT 4 - 150(DL)/50(UL)
WCDMA/HSPA/HSPA+(Mbps)	21(DL)/11(UL)	42.2(DL)/5.76(UL)
TD-SCDMA(Mbps)		
CDMA EV-DO(Mbps)		
CDMA 1xRTT(Kbps)		
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 FHD 2160*1080 60fps	4-lane MIPI_DSI HD+(1280*800), 60fps
Camera	MIPI_CSI * 3 Primary camera: 4-lane MIPI_CSI, up to 16MP Secondary camera: 4-lane MIPI_CSI, up to 16MP	MIPI_CSI * 2 Primary camera: 4-lane MIPI_CSI, up to 13MP Secondary camera: 4-lane MIPI_CSI, up to 8MP
Video Performance	Encode: 1080p60, H.264, H.265, VP8 Decode: 1080p60, H.264, H.265, VP8, VP9 Wireless Display (Encode+Decode) : 1080p60 Dec + 1080p30 Enc	Encode: 1080p 30fps(H.264) Decode: 1080p 30fps(H.264, MPEG4, VP9, HEVC) -- Encode+Decode: 1080p 30 fps + 720p 30 fps
Analog Audio	3 Inputs & 3 Outputs	3 Inputs & 3 Outputs
Audio Codec	G711;QCELP;EVRC;EVRC-B, EVRC-WB;AMR-NB, AMR-WB;GSM-EFT, GSM-FT, GSM-HR	Voice codec: AMR FR, AMR HR, AMR-WB, EVS_WB, FR,HR,EFR Audio encode: AMR-NB, AMR-WB,AAC,OGG,ADPCM Audio decode: WAV, MP3, MP2, AAC, AMR-NB, AMR-WB, MIDI, Vorbis, APE, AAC-plus v1, v2; FLAC, WMA, ADPCM
Interfaces		
UART	*4	*2
USB	*2 USB 2.0	USB2.0
UIM	*2	*2
GPIO	At Least 40*GPIO	At Least 25*GPIO
SD Card	•	•
SPI	•	•
I2C	*5	*5
ADC	*1	*1
Motor Drive	*1	*1
WLED Sink	•	•
Flash Drive	•	•
Antenna	Main&Diversity&GNSS&Wi-Fi/BT	Main&Diversity&GNSS&Wi-Fi/BT
Software Features		
Operating System	Android 10	Android 11
USB Driver	Microsoft Windows 2000/XP/Vista/Win7/Win8/Win10/Linux	Microsoft Windows 2000/XP/Vista/Win7/Win8/Win10/Linux
Bluetooth	BT 5.0	BT 5.0
Dual LCD		
DSDS	•	•
Charge Function	•	•
Firmware Upgrade	USB/OTA/TF card	USB/OTA/TF card
Certification		
Certification	RoHS/REACH/CCC/CE*	RoHS*/REACH*/CCC*/CE*
Typical Applications	POS, Security, Networking, Telematics,Retail	


○: Optional * : Under Developing/On-going/Planning

Smart Module

Technology	Smart Module	
Product	SIM8950X(EC/AC)	SIM8970X (CE/EU/NA/W)
Picture		
Form Factor	LCC+LGA 232PIN	LCC+LGA 344PIN
Dimensions(mm)	44.1*45.6*2.8	44.1*45.6*2.85
Weight(g)	12.5±0.1	12.5±0.1
Frequency Bands	AC (North America) LTE-FDD: B2/B4/B5/B12/B13/B14/B25/B26 LTE-TDD: B41 WCDMA: B2/B4/B5 EDGE/GPRS/GSM: 850/1900 MHz EC (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 W: 2.4G/5G, 802.11a/b/g/n/ac BT4.2	CE (China) LTE-FDD: B1/B3/B5/B8 LTE-TDD: B34/B38/B39/B40/B41 WCDMA: B1/B8 TD-SCDMA:B34/B39 EDGE/GPRS/GSM: 900/1800 MHz NA (North America) LTE-FDD: B2/B4/B5/B7/B12/B13/B14/B17/B25/B26/B66/B71 LTE-TDD: B41 WCDMA: B2/B4/B5 EU (Europe/Middle East/Africa/Korea/Thailand) LTE-FDD: B1/B3/B5/B7/B8/B20/B28 LTE-TDD: B38/B40/B41 WCDMA: B1/B5/B8 GSM: 900/1800 MHz W: 2.4G/5G, 802.11a/b/g/n/ac BT5.0
GNSS	BeiDou/GPS/GLONASS	BeiDou/GPS/GLONASS
WLAN	2.4G/5G, 802.11a/b/g/n/ac	2.4G/5G, 802.11a/b/g/n/ac
CPU	SDM450 ,Octa ARM Cortex-A53 cores up to 1.8GHz	QCM6125 ,Octa ARM V-8 cores up to 2.0GHz
GPU	Adreno 506 GPU at 680MHz	Adreno 610 GPU at 950MHz
Memory	2GB LPDDR3 RAM +16GB eMMC Flash	4GB LPDDR4 RAM +64GB eMMC Flash
Supply Voltage Range	3.4V~ 4.4V	3.5V~ 4.4V
Temperature	-35 C ~ +75 C	-30 C ~ +75 C
Data Transfer		
LTE(Mbps)	LTE CAT 4 - 150(DL)/50(UL)	LTE CAT 6 - 300(DL)/50(UL)
WCDMA/HSPA/HSPA+(Mbps)	42.2(DL)/5.76(UL)	42.2(DL)/5.76(UL)
TD-SCDMA(Mbps)		
CDMA EV-DO(Mbps)		
CDMA 1xRTT(Kbps)		
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 * 2 FHD 1920*1200 60fps	4-lane MIPI_DSI, DP over USB Type-C FHD 2520*1080 60fps
Camera	MIPI_CSI * 2 Primary camera: 4-lane MIPI_CSI, up to 21MP Secondary camera: 2-lane MIPI_CSI, up to 8MP	MIPI_CSI*3 Support 3 or 4 Cameras Up to 25MP with Dual ISPs
Video Performance	Encode: 1080p60, H.264, H.265, VP8 Decode: 1080p60, H.264, H.265, VP8, VP9 Wireless Display (Decode+Encode) : 1080p60 Dec + 1080p30 Enc	Encode: 4K30 HEVC/H264/VP8/MPEG4 Decode: 4K30 8-bit: H.264/VP8/VP9 4K30 10-bit: HEVC Wireless display(decode + encode): 4Kp30 Dec + 1080p30 Enc
Analog Audio	2 Inputs & 4 Outputs	3 Inputs & 4 Outputs
Audio Codec	G711;QCELP;EVRC;EVRC-B, EVRC-WB;AMR-NB, AMR-WB;GSM-EFT, GSM-FT, GSM-HR	G.711, G.729A/AB; EVRC, EVRC-B, EVRC-WB; AMR-NB, AMR-WB, AMR-eAMR, AMR-BeAMR; GSM-EFR/FR/HR; MP3; AAC; He-AAC v1, v2; WMA 9/Pro; Dolby AC-3, eAC-3, DTS-HD, FLAC, APE, ALAC, AIFF
Interfaces		
UART	*4	*6
USB	USB3.0/2.0/Type-C/OTG	USB3.1/2.0/Type-C/OTG
UIM	*2	*2
GPIO	At Least 22*GPIO	At Least 40*GPIO
SD Card	•	•
SPI	•	•
I2C	*3	*9
ADC	*1	*2
Motor Drive	○	•
WLED Sink	○	•
Flash Drive	○	•
Antenna	Main&Diversity&GNSS&Wi-Fi/BT	Main&Diversity&GNSS&Wi-Fi/BT
Software Features		
Operating System	Android 7.1/8.1/9.1/10.1	Android 10/11
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/4.2 BLE	BT 5.x BLE
Dual LCD	•	•
DSDS	•	•
Charge Function	○	•
Firmware Upgrade	USB/OTA/TF card	USB/OTA/TF card
Certification		
Certification	RoHS*/REACH*/CE(RED)	EU:RoHS*/REACH*/CE(RED) CE:CCC/RoHS*/REACH*
Typical Applications	POS, Security, Networking, Telematics,Retail	


○: Optional * : Under Developing/On-going/Planning

Smart Module

Technology	Smart Module	
Product	SIM8918X(CE/EA/NA/SA/JP/W)	
Picture		
Form Factor	LCC+LGA 286PIN	
Dimensions(mm)	40.5*40.5*2.8	
Weight(g)	10.5±0.1	
Frequency Bands	CE (China) LTE-FDD: B1/B3/B5/B8 LTE-TDD: B34/B38/B39/B40/B41 WCDMA: B1/B8 EDGE/GPRS/GSM: 900/1800 MHz	EA (Europe/Middle East/Africa/Korea/Thailand) LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B20/B28 LTE-TDD: B38/B40/B41 WCDMA: B1/B2/B4/B5/B8 GSM: 850/900/1800/1900 MHz
GNSS	BeiDou/GPS/GLONASS	
WLAN	2.4G/5G, 802.11a/b/g/n/ac	
CPU	QCM2290, Quad ARM Cortex-A53 cores up to 2.0GHz	
GPU	Adreno 702 GPU at 845MHz	
Memory	2GB LPDDR4 RAM +16GB eMMC Flash	
Supply Voltage Range	3.4V~ 4.4V	
Temperature	-35 C ~ +75 C	
Data Transfer		
LTE(Mbps)	LTE CAT 4 - 150(DL)/50(UL)	
WCDMA/HSPA/HSPA+(Mbps)	42.2(DL)/5.76(UL)	
TD-SCDMA(Mbps)		
CDMA EV-DO(Mbps)		
CDMA 1xRTT(Kbps)		
GPRS(Kbps)	Max 107(DL)/85.6(UL)	
EDGE(Kbps)	Max 296(DL)/236.8(UL)	
Media		
Display	4-lane MIPI_DSI HD(720P), 60fps	
Camera	MIPI_CSI * 2 Primary camera: 4-lane MIPI_CSI, up to 13MP Secondary camera: 4-lane MIPI_CSI, up to 13MP	
Video Performance	Encode: 1080p 30 fps (H.264) Decode: 1080p 30 fps(HEVC,H.264 and VP8) Encode+Decode: 1080p 30 fps + 720p 30 fps	
Analog Audio	3 Inputs & 3 Outputs	
Audio Codec	EVS, EVRC, EVRC-B, EVRC-WB G.711 and G.729A/AB GSM-FR, GSM-EFR, and GSM-HR AMR-NB and AMR-WB MP3; AAC; HE AAC v1, v2; FLAC; APE; ALAC; AIF	
Interfaces		
UART	*3	
USB	USB3.1/2.0/Type-C/OTG	
UIM	*2	
GPIO	At Least 25*GPIO	
SD Card	•	
SPI	*2	
I2C	*10	
ADC	*1	
Motor Drive	*1	
WLED Sink		
Flash Drive		
Antenna	Main&Diversity&GNSS&Wi-Fi/BT	
Software Features		
Operating System	Android 11/12	
USB Driver	Microsoft Windows 2000/XP/Vista/Win7/Win8/Win10/Linux	
Bluetooth	BT5.0	
Dual LCD		
DSDS	•	
Charge Function	•	
Firmware Upgrade	USB/OTA/TF card	
Certification		
Certification	RoHS/REACH/CE(RED)/UKCA*	
Typical Applications	POS, Security, Networking, Telematics, Retail	


○: Optional * : Under Developing/On-going/Planning

LTE Module

Technology	LTE CAT4	
Product	A7608SA-H	A7602E-H
Picture		
Form Factor	LCC+LGA, 163PIN	
Dimensions(mm)	30.0*30.0*2.5	
Weight(g)	4.6±0.1	
Frequency Bands	-A(North America(AT&T)) -V(North America (Verizon)) -E(Europe/Middle East/Africa) -SA(New Zealand /Australia/South America) -JC/JE(Japan) -G(Global) -NA(North America)	LTE-FDD: B1/B3/B5/B7/B8/B20/B28 LTE-TDD: B38/B40/B41 UMTS/HSPA+ B1/B8 GSM/GPRS/EDGE:900/1800 MHz
GNSS	○	
Temperature	-40°C ~ +85°C	
Electrical Features		
Supply Voltage Range	3.4V~ 4.2V	
Power Consumption(mA)	2.8@GSM,BS_PA_MFRMS=2 3.3@WCDMA, DRX=9 2.5@LTE	
Data Transfer		
LTE(Mbps)	150(DL)/50(UL)	
WCDMA/HSPA+(Mbps)	21(DL)/5.76(UL)	
GPRS/EDGE(Kbps)	236.8(DL)/236.8(UL)	
SMS	•	
Software Features		
Protocol	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	Android6.0/7.0/8.0/9.0/10.0	
USB Driver	Microsoft Windows 7/8/10 Linux/Android	
WWAN	•	
ECM	•	
MBIM	•	
NDIS		
Embedded AT	○	
Firmware Upgrade	USB/FOTA	
Interfaces		
SIM Card	1.8V/3.0V	
UART	•	
USB	•	
PCM	○	
Mic/Reciever	•	
ADC	•	
GPIO	•	
SD Card	•	
SPI	•	
I2C	•	
Diversity Receiver	○	
Certification		
Certification	SA:Anatel*/FCC/RoHS/REACH E:CE(RED)/RCM/RoHS/REACH/UKCA/Deutsche Telekom	
Typical Applications	Fleet Management, Telematics, Security, Tracking, Agriculture, Smart Meters, Router, Gateway	



○: Optional * : Under Developing/On-going/Planning

LTE Module

Technology	LTE CAT4
Product	SIM7600X-H
Picture	
Form Factor	LCC, 87PIN
Dimensions(mm)	30.0*30.0*2.9
Weight(g)	5.7±0.1
Frequency Bands	-A(North America(AT&T)) LTE-FDD: B2/B4/B12 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 -SA(New Zealand /Australia/South America) LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B28/B66 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 -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	o
Temperature	-40°C ~ +85°C
Electrical Features	
Supply Voltage Range	3.4V~ 4.2V
Power Consumption(mA)	2.8@GSM,BS_PA_MFRMS=2 3.3@WCDMA, DRX=9 2.3@LTE
Data Transfer	
LTE(Mbps)	150(DL)/50(UL)
WCDMA/HSPA+(Mbps)	42(DL)/5.76(UL)
GPRS/EDGE(Kbps)	296(DL)/236.8(UL)
SMS	•
Software Features	
Protocol	TCP/IP/IPV4/IPV6/Multi-PDP/FTP/FTPS/ HTTP/HTTPS/SMTP/SMTPS/DNS
TLS	•
File System	•
Audio Record/Play	o
TTS	o
DTMF	o
LBS	•
FOTA	•
Jamming Detection	•
Android RIL	Android6.0/7.0/8.0/9.0/10.0
USB Driver	Microsoft Windows 7/8/10 Linux/Android
WWAN	•
ECM	•
MBIM	Win8/Win10
NDIS	Linux/Windows 7/8/10
Embedded AT	o
Firmware Upgrade	USB/FOTA
Interfaces	
SIM Card	1.8V/3.0V
UART	•
USB	•
PCM	o
ADC	•
GPIO	•
SD Card	•
SPI	o
I2C	•
Diversity Receiver	•
Certification	
Certification	A: RoHS/REACH/FCC/PTCRB/AT&T/IC/Rogers* E: RoHS/REACH/NCC/IMDA/CE(RE)/UKCA/GCF/Deutsche Telekom/Vodafone* JC: RoHS/REACH/JATE/Telec/Docomo/KDDI/Softbank SA: RoHS/REACH/NCC/RCM/CE(RE)/OCD(Anatel) V: RoHS/REACH/GCF/FCC/Verizon NA: RoHS/REACH/FCC/IC/GCF/PTCRB/AT&T/Verizon/T-Mobile/US Cellular G: RoHS/REACH/CE(RE)/FCC/IC/CCC/SRRC/JATE/Telec/KC/IMDA/RCM/ICASA/FAC*/Anatel/UKCA/GCF/PTCRB/Deutsche Telekom/ AT&T/Verizon/T-Mobile/US Cellular/Telstra/Orange
Typical Applications	Fleet Management, Telematics, Security, Tracking, Agriculture, Smart Meters




o: Optional * : Under Developing/On-going/Planning

LTE Module

Technology	LTE CAT1	LTE CAT1
Product	SIM7600X	SIM7500X
Picture		
Form Factor	LCC, 87PIN	LGA, 56PIN
Dimensions(mm)	30.0*30.0*2.9	24.0*27.0*2.75
Weight(g)	5.7±0.1	4.0±0.1
Frequency Bands	-A(North America(AT&T)) LTE-FDD: B2/B4/B12 WCDMA: B2/B5 -V(North America (Verizon)) -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 -SA(New Zealand /Australia/South America) LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B28/B66 LTE-TDD: B40 WCDMA: B1/B2/B5/B8 GSM: 850/900/1800/1900 MHz -JC/JE(Japan) -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	LTE-FDD: B2/B4/B12 WCDMA: B2/B5 LTE-FDD B4/B13 LTE-FDD: B1/B3/B7/B8/B20 WCDMA: B1/B8 GSM: 900/1800MHz LTE-FDD: B1/B3/B5/B7/B8/B28 WCDMA: B1/B5 JC: LTE-FDD: B1/B18/B19/B26 JE: LTE-FDD: B1/B3/B8
GNSS	o	o
Temperature	-40°C ~ +85°C	-40°C ~ +85°C
Electrical Features		
Supply Voltage Range	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
Data Transfer		
LTE(Mbps)	10(DL)/5(UL)	10(DL)/5(UL)
WCDMA/HSPA+(Mbps)	42(DL)/5.76(UL)	42(DL)/5.76(UL)
GPRS/EDGE(Kbps)	296(DL)/236.8(UL)	296(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
TLS	•	•
File System	•	•
Audio Record/Play	o	o
TTS	o	o
DTMF	o	o
LBS	•	•
FOTA	•	•
Jamming Detection	•	•
Android RIL	Android6.0/7.0/8.0/9.0/10.0	Android6.0/7.0/8.0/9.0/10.0
USB Driver	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
Interfaces		
SIM Card	1.8V/3.0V	1.8V/3.0V
UART	•	•
USB	•	•
PCM	o	o
ADC	•	•
GPIO	•	•
SD Card	•	•
SPI	o	o
I2C	•	•
Diversity Receiver	•	•
Certification		
Certification	A: RoHS/REACH/FCC/PTCRB/AT&T/IC/Rogers/OCD(Anatel) E: RoHS/REACH/KC/IMDA/CE(RE)/UKCA/GCF/Deutsche Telekom/Vodafone*/Orange SA: RoHS/REACH/NCC/RCM/Telstra/CE(RE)/GCF/OCD(Anatel) NA: RoHS/REACH/FCC/IC/GCF/PTCRB/AT&T/Verizon/T-Mobile/US Cellular G: RoHS/REACH/CE(RE)/FCC/IC/CCC/SRRC/JATE/Telec/IMDA/RCM/ICASA/FAC*/Anatel/UKCA/GCF/PTCRB/Deutsche Telekom/AT&T/Verizon/T-Mobile/US Cellular/Orange	A: RoHS/REACH/FCC/PTCRB/AT&T/IC/Rogers E: RoHS/REACH/SRRC/CE(RE)/Deutsche Telekom JC: RoHS/REACH/Telec/JATE/Docomo/KDDI JE: RoHS/REACH/Telec/JATE/Softbank SA: RoHS/REACH/RCM/Telstra/CE(RE)/NCC V: RoHS/REACH/GCF/FCC/Verizon
Typical Applications	Fleet Management, Telematics, Security, Tracking, Agriculture, Smart Meters	Fleet Management, Telematics, Security, Tracking, Agriculture, Smart Meters

o: Optional * : Under Developing/On-going/Planning





LTE Module

Technology	LTE CAT1		
Product	A7676E	A7602E	SIM7672X(EINAIG)
Picture			
Form Factor	LCC+LGA, 124PIN	LCC+LGA, 119PIN	LCC+LGA
Dimensions(mm)	24.0*24.0*2.4	30.0*30.0*2.5	24.0*24.0*2.4
Weight(g)	2.8±0.1	4.2±0.1	TBD
Frequency Bands	-A(North America(AT&T)) -V(North America (Verizon)) -E(Europe/Middle East/Africa) -SA(New Zealand /Australia/South America) -JC/JE(Japan) -G(Global) -NA(North America)	LTE-FDD: B1/B3/B8/B20/B28*/B31/B72 GSM/GPRS/EDGE: 900/1800MHz LTE-FDD: B1/B3/B5/B7/B8/B20 GSM/GPRS/EDGE: 900/1800MHz	LTE-FDD: B1/B3/B7/B8/B20/B28*
GNSS	○	○	○
Temperature	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C
Electrical Features			
Supply Voltage Range	3.4V~ 4.2V	3.4V~ 4.2V	3.4V~ 4.2V
Power Consumption(mA)	2.5@GSM,BS_PA_MFRMS=2 1.5@LTE	2.5@GSM,BS_PA_MFRMS=2 1.5@LTE	TBD
Data Transfer			
LTE(Mbps)	10(DL)/5(UL)	10(DL)/5(UL)	10(DL)/5(UL)
WCDMA/HSPA+(Mbps)			
GPRS/EDGE(Kbps)	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	Android6.0/7.0/8.0/9.0/10.0	Android6.0/7.0/8.0/9.0/10.0	Android6.0/7.0/8.0/9.0/10.0
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			
NDIS			
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	○	○	○
Mic/Reciever	●	●	●
ADC	●	●	●
GPIO	●	●	●
SD Card			
SPI	●	●	●
I2C	●	●	●
Diversity Receiver			
Certification			
Certification	E:RoHS/REACH/CE(RED)/UKCA*	E: RoHS/REACH/CE(RED)/UKCA*	E:CE(RED)/UKCA*/RCM*/RoSH*/REACH* NA:FCC*/IC*/GCF*/ PTCRB*/RoSH*/REACH* G:FCC*/GCF*/PTCRB*/UKCA*/CE(RED)*/RCM*/ IC*/NCC*/KC*/TELEC*/JATE*/ANATEL*/CCC*/ CTA*/SRRC*/RoHS*/REACH*

Typical Applications Fleet Management, Telematics, Security, Tracking, Agriculture, Smart Meters, Router, Gateway

○ : Optional * : Under Developing/On-going/Planning


LTE Module

Technology	LTE CAT1		
Product	A7672X(EISISAIG)	A7682E	A7682S
Picture	 		
Form Factor	LCC+LGA, 124PIN	LGA, 85PIN	LCC+LGA, 92PIN
Dimensions(mm)	24.0*24.0*2.4	19.6*19.6*2.4	15.7*17.6*2.1
Weight(g)	2.8±0.1	1.9±0.1	1.9±0.1
Frequency Bands	-A(North America(AT&T)) -V(North America (Verizon)) -E(Europe/Middle East/Africa) -SA(New Zealand /Australia/South America) -S(Vitnam/India) -JC/JE(Japan) -G(Global)	LTE-FDD: B1/B3/B5/B7/B8/B20 GSM/GPRS/EDGE: 900/1800 MHz LTE-FDD: B1/B3/B5/B7/B8/B20 GSM/GPRS/EDGE: 900/1800 MHz	LTE-FDD: B1/B3/B5/B7/B8/B20 GSM/GPRS/EDGE: 900/1800 MHz
GNSS	○	○	○
Temperature	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C
Electrical Features			
Supply Voltage Range	3.4V~ 4.2V	3.4V~ 4.2V	3.4V~ 4.2V
Power Consumption(mA)	2.5@GSM,BS_PA_MFRMS=2 1.5@LTE	2.5@GSM,BS_PA_MFRMS=2 1.5@LTE	1.5@LTE
Data Transfer			
LTE(Mbps)	10(DL)/5(UL)	10(DL)/5(UL)	10(DL)/5(UL)
WCDMA/HSPA+(Mbps)			
GPRS/EDGE(Kbps)	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	Android6.0/7.0/8.0/9.0/10.0	Android6.0/7.0/8.0/9.0/10.0	Android6.0/7.0/8.0/9.0/10.0
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			
NDIS			
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	○	○	○
Mic/Reciever	●	●	●
ADC	●	●	●
GPIO	●	●	●
SD Card			
SPI	●	●	●
I2C	●	●	●
Diversity Receiver			
Certification			
Certification	E:RoHS/REACH/CE(RED)/UKCA*/DT/NCC* SA:RoHS/REACH/RCM/CE(RED)/FCC/Anatel G:CCC*/CTA*/SRRC*/FCC/CE(RED)*/ RoSH*/REACH*	RoHS/REACH/CE(RED)/UKCA*/DT	

Typical Applications Fleet Management, Telematics, Security, Tracking, Agriculture, Smart Meters, Router, Gateway

○ : Optional * : Under Developing/On-going/Planning




3G Module

Technology	3G
Product	A5360G
Picture	
Form Factor	LCC+LGA, 163PIN
Dimensions(mm)	30.0*30.0*2.5
Weight(g)	4.6±0.1
Frequency Bands	-A(North America(AT&T)) -V(North America(Verizon)) -E(Europe/Middle East/Africa/Korea/Thailand) -SA(New Zealand/Australia/South America) -JC/JE(Japan) -G(Global) -NA(North America)
GNSS	WCDMA: B1/B2/B5/B8 GSM: 850/900/1800/1900MHz
Temperature	-40°C ~ +85°C
Electrical Features	
Supply Voltage Range	3.4V~ 4.2V
Power Consumption(mA)	2.8@GSM,BS_PA_MFRMS=2 3.3@WCDMA, DRX=9
Data Transfer	
WCDMA/HSPA+(Mbps)	21(DL)/5.76(UL)
GPRS/EDGE(Kbps)	236.8(DL)/236.8(UL)
SMS	•
Software Features	
Protocol	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	Android6.0/7.0/8.0/9.0/10.0
USB Driver	Microsoft Windows 7/8/10 Linux/Android
WWAN	•
ECM	•
MBIM	•
NDIS	•
Embedded AT	•
Firmware Upgrade	USB/FOTA
Interfaces	
SIM Card	1.8V/3.0V
UART	•
USB	•
PCM	○
ADC	•
GPIO	•
SD Card	•
SPI	•
I2C	•
Diversity Receiver	•
Certification	
Certification	

Typical Applications Fleet Management,Telematics,Security,Tracking,Agriculture,Smart Meters,Router,Gateway




○ : Optional * : Under Developing/On-going/Planning

GSM/GPRS Module

Technology	GSM/GPRS		
Product	SIM800C	SIM800F	SIM800C-DS
Picture			
Form Factor	LCC, 42PIN	LCC, 68PIN	LCC& LGA, 77PIN
Dimensions(mm)	17.6*15.7*2.3	24.0*24.0*3.0	17.6*15.7*2.3
Weight(g)	1.3±0.1	3.1±0.1	1.3±0.1
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°C~+85°C	-40°C~+85°C	-40°C~+85°C
Electrical Features			
Supply Voltage 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	1.60@GSM, DRX=2 0.93@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/SMT/PPP	TCP/UDP/HTTP/FTP/POP3/SMT/PPP	TCP/UDP/HTTP/FTP/POP3/SMT/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 4*GPIO
SD	•	•	•
SPI	○	○	○
I2C	•	•	•
Certification			
Certification	RoHS/REACH/CCC/CTA/SRRC/Mobile/Unicom/RCM/CE(RED)/GCF/BQB(Bluetooth)/TIM/Deutsche Telekom/ICASA/FCC/OCD(Anatel)	RoHS/REACH/CE(RED)/GCF/Orange/ICASA/FCC	CE(RED)/RoHS/REACH
Typical Applications	Telematics,Fleet Management,Smart Meters,Security,RMAC		



○ : Optional * : Under Developing/On-going/Planning

GSM/GPRS Module

Technology	GSM/GPRS		
Product	SIM868	SIM868E	R800C
Picture			
Form Factor	LCC&LGA,77PIN	LCC&LGA,77PIN	LCC, 42PIN
Dimensions(mm)	17.6*15.7*2.3	17.6*15.7*2.3	17.6*15.7*2.3
Weight(g)	1.5±0.1	1.5±0.1	1.3±0.1
Frequency Bands	GSM: 850/900/1800/1900MHz	GSM: 850/900/1800/1900MHz	GSM: 850/900/1800/1900MHz
Bluetooth	BT 3.0	BT 3.0&4.0	
GNSS	BeiDou/GPS/GLONASS	BeiDou/GPS/GLONASS	
Temperature	-40°C~+85°C	-40°C ~ +85°C	-40°C~+85°C
Electrical Features			
Supply Voltage Range	3.4V~4.4V	3.4V~4.4V	3.4V~4.4V
Power Consumption(mA)	1.42@GSM, DRX=2 0.86@GSM, DRX=9	1.42@GSM, DRX=2 0.86@GSM, DRX=9	1.30@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*/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&2 Output	1 Input&2 Output	1 Input&1 Output
ADC	•	•	•
GPIO	At Least 4*GPIO	At Least 4*GPIO	At Least 2*GPIO
SD	•	•	
SPI	◦	◦	
I2C	•	•	
Certification			
Certification	RoHS/REACH/CCC/CTA/SRRC/Mobile/ CE(RE D)/GCF*/Deutsche Telekom/ICASA/FCC	BQB(Bluetooth)/Deutsche Telekom/ RoHS/REACH/TIM	CCC/CTA/SRRC/CE(RE D)/FCC/ RoHS*/REACH*
Typical Applications			
Telematics,Fleet Management,Smart Meters,Security,RMAC			




◦: Optional * : Under Developing/On-going/Planning

GNSS Module

Technology	GNSS		
Product	SIM28M	SIM28ML	
Picture			
Form Factor	LCC, 18PIN	LCC, 18PIN	
Dimensions(mm)	9.7*10.1*2.5	9.7*10.1*2.5	
Weight(g)	0.5	0.5	
Temperature	-40°C~+85°C	-40°C~+85°C	
Chipset	MT3339	MT3337	
Electrical Features			
Supply Voltage Range	2.8~4.3V	2.8~4.3V	
I/O Voltage	2.8V	2.8V	
Power Consumption	Acquisition	17mA	17mA
	Tracking	16mA	16mA
	Sleep	150µA	150µA
	Backup	8µA	8µA
GNSS			
GNSS	GPS	GPS	
A-GPS	•		
Channel Number	22 Track/66 Acq	22 Track/66 Acq	
SBAS	WAAS/EGNOS/GAGAN/MSAS	WAAS/EGNOS/GAGAN/MSAS	
Sensitivity	Tracking	-165 dBm	-165 dBm
	Cold Start	-148 dBm	-148 dBm
	Reacquisition	-160 dBm	-160 dBm
TTFF (Time to First Fix)	Cold Start	32s	32s
	Warm Start	30s	30s
	Hot Start	<1s	<1s
Accuracy	Position	<2.5m CEP	<2.5m CEP
	Velocity	0.1m/s	0.1m/s
Max Update Rate	10Hz	5Hz	
Baud Rate(default)	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	
Antenna Power	External or internal	External or internal	
Certification			
Certification	RoHS/REACH/CE(RE D)	RoHS/REACH/CE(RE D)	
Typical Applications			
Pet Tracking, Asset Tracking			




◦: Optional * : Under Developing/On-going/Planning

GNSS Module

Technology	GNSS		
Product	SIM68M	SIM65M	SIM66M
Picture			
Form Factor	LCC, 18PIN	LCC, 18PIN	LCC, 18PIN
Dimensions(mm)	9.7*10.1*2.5	9.7*10.1*2.5	9.7*10.1*2.5
Weight(g)	0.5	TBD	0.5
Temperature	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C
Chipset	MT3333	AG3352	UC6226NIS
Electrical Features			
Supply Voltage Range	2.8~4.3V	2.8~4.3V	3.2~4.0V
I/O Voltage	2.8V	2.8V	Vin-0.3V
Power Consumption	Acquisition	25mA	18mA
	Tracking	21mA	18mA
	Sleep	340µA	210mA
	Backup	14µA	15µA
GNSS			
GNSS	GPS/GLONASS/Galileo/QZSS	GPS/GLONASS/BEIDOU/Galileo/QZSS	GPS/GLONASS
A-GPS	●	●	●
Channel Number	33 Track/99 Acq	47	46 Track/64 Acq
SBAS	WAAS/EGNOS/GAGAN/MSAS	WAAS/EGNOS/GAGAN/MSAS	WAAS/EGNOS/GAGAN/MSAS
Sensitivity	Tracking	-165 dBm	-166 dBm
	Cold Start	-148 dBm	-147 dBm
	Reacquisition	-160 dBm	-158 dBm
TTFF (Time to First Fix)	Cold Start	28s	30s
	Warm Start	26s	25s
	Hot Start	<1s	<1s
Accuracy	Position	<2.5m CEP	<2m CEP
	Velocity	0.1m/s	0.1m/s
Max Update Rate	10Hz	10Hz	1Hz
Baud Rate(default)	9600/115200	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
Antenna Power	External or internal	External or internal	External or internal
Certification			
Certification	RoHS/REACH/CE(RED)/Deutsche Telekom	RoHS*/REACH*/CE(RED)/UKCA*	RoHS/REACH/CE(RED)
Typical Applications	Pet Tracking, Asset Tracking		




o: Optional * : Under Developing/On-going/Planning

GNSS Module

Technology	GNSS		
Product	SIM66MD	SIM68MD	SIM68E
Picture			
Form Factor	LCC, 18PIN	LCC, 18PIN	LCC, 22PIN
Dimensions(mm)	9.7*10.1*2.5	9.7*10.1*2.5	13.0*15.0*2.3
Weight(g)	0.5	0.5	0.5
Temperature	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C
Chipset	CC0058I	AG3335M	MT3333
Electrical Features			
Supply Voltage Range	2.1~4.0V	2.8~4.3V	2.8~4.3V
I/O Voltage	Vin-0.3V	2.8V	2.8V
Power Consumption	Acquisition	40mA	30mA
	Tracking	40mA	32mA
	Sleep		340uA
	Backup	60µA	50uA
GNSS			
GNSS	L1: GPS/Beidou/GLONASS/Galileo/QZSS L5: GPS/Beidou/ Galileo/QZSS/NavIC	L1: GPS/Beidou/GLONASS/Galileo/QZSS L5: GPS/Beidou/ Galileo/QZSS/	GPS/GLONASS/Galileo/QZSS
A-GPS	●	●	●
Channel Number	L1:75+L5:60	L1:75+L5:60	33 Track/99 Acq
SBAS	WAAS/EGNOS/GAGAN/MSAS/SDCM	WAAS/EGNOS/GAGAN/MSAS/SDCM	WAAS/EGNOS/GAGAN/MSAS
Sensitivity	Tracking	-166 dBm	-157 dBm
	Cold Start	-150 dBm	-141 dBm
	Reacquisition	-156 dBm	-151 dBm
TTFF (Time to First Fix)	Cold Start	25s	27s
	Warm Start	15s	24s
	Hot Start	<1s	<1s
Accuracy	Position	<1.5m CEP	<2.5m CEP
	Velocity	0.1m/s	0.1m/s
Max Update Rate	10Hz	10Hz	10Hz
Baud Rate(default)	115200	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
Antenna Power	External or internal	External or internal	Internal
Certification			
Certification	RoHS*/REACH*/CE(RED)*	RoHS*/REACH*/CE(RED)*	RoHS/REACH/CE(RED)
Typical Applications	Pet Tracking, Asset Tracking		



o: Optional * : Under Developing/On-going/Planning

GNSS Module

Technology	GNSS		
Product	SIM68AD	SIM68D	SIM68I
Picture			
Form Factor	LCC, 24PIN	LCC, 24PIN	LCC, 24PIN
Dimensions(mm)	16.0*12.2*2.4	16.0*12.2*2.4	16.0*12.2*2.4
Weight(g)	1	1	1
Temperature	-40°C~+85°C	-40°C ~ +85°C	-40°C ~ +85°C
Chipset	AG3335AD	AG3335M	AG3335MN
Electrical Features			
Supply Voltage Range	2.8~4.3V	2.8~4.5V	2.8~4.5V
I/O Voltage	2.8V/1.8V	2.8V/1.8V	2.8V/1.8V
Power Consumption	Acquisition	30mA	30mA
	Tracking	32mA	32mA
	Sleep	340uA	340uA
	Backup	50uA	50uA
GNSS			
GNSS	L1: GPS/Beidou/GLONASS/Galileo/QZSS L5: GPS/Beidou/ Galileo/QZSS/	L1: GPS/Beidou/GLONASS/Galileo/QZSS L5: GPS/Beidou/ Galileo/QZSS/	L1: GPS/Beidou/GLONASS/Galileo L5: NavIC
A-GPS	●	●	●
Channel Number	L1:75+L5:60	L1:75+L5:60	L1:75+L5:7
SBAS	WAAS/EGNOS/GAGAN/MSAS/SDCM	WAAS/EGNOS/GAGAN/MSAS/SDCM	WAAS/EGNOS/GAGAN/MSAS/SDCM
Sensitivity	Tracking	-165 dBm	-165 dBm
	Cold Start	-148 dBm	-148 dBm
	Reacquisition	-160 dBm	-160 dBm
TTFF (Time to First Fix)	Cold Start	27s	27s
	Warm Start	24S	24S
	Hot Start	<1s	<1S
Accuracy	Position	<1.5m CEP	<1.5m CEP
	Velocity	0.1m/s	0.1m/s
Max Update Rate	1 Hz	10Hz	10Hz
Baud Rate(default)	115200	115200	115200
Jamming Detection	●	●	●
Anti-jamming	●	●	●
Built-in LNA	●	●	●
DR	●	●	●
Interfaces			
UART	●	●	●
Reset	●	●	●
Time Pulse	●	●	●
Digital I/O	●	●	●
Antenna			
Antenna Type	Active/passive	Active/passive	Active/passive
Antenna Power	External or internal	External or internal	External or internal
Certification			
Certification	RoHS*/REACH*/CE(RED)*	RoHS/REACH/CE(RED)/UKCA	RoHS/REACH/CE(RED)*
Typical Applications	Pet Tracking, Asset Tracking		



o: Optional * : Under Developing/On-going/Planning

GNSS Module

Technology	GNSS	
Product	SIM33ELA	SIM32ELA
Picture		
Form Factor	LCC, 31PIN	LCC, 31PIN
Dimensions(mm)	14.0*9.6*2.15	14.0*9.6*2.15
Weight(g)	0.5	0.5
Temperature	-40°C~+85°C	-40°C~+85°C
Chipset	MT3333	AG3352
Electrical Features		
Supply Voltage Range	2.8~4.3V	2.8~4.3V
I/O Voltage	2.8V	2.8V
Power Consumption	Acquisition	25mA
	Tracking	20mA
	Sleep	320uA
	Backup	14uA
GNSS		
GNSS	GPS/GLONASS/Galileo/QZSS	GPS/GLONASS/BEIDOU/Galileo/QZSS
A-GPS	●	●
Channel Number	33 Track/99 Acq	47
SBAS	WAAS/EGNOS/GAGAN/MSAS	WAAS/EGNOS/GAGAN/MSAS
Sensitivity	Tracking	-165 dBm
	Cold Start	-147 dBm
	Reacquisition	-160 dBm
TTFF (Time to First Fix)	Cold Start	28s
	Warm Start	26s
	Hot Start	<1s
Accuracy	Position	<2.5m CEP
	Velocity	0.1m/s
Max Update Rate	10Hz	10Hz
Baud Rate(default)	9600/115200	115200
Jamming Detection	●	●
Anti-jamming	●	●
Built-in LNA	●	●
Interfaces		
UART	●	●
Reset	●	●
Time Pulse	●	●
Digital I/O	●	●
Antenna		
Antenna Type	Passive	Passive
Antenna Power	Internal	Internal
Certification		
Certification	RoHS/REACH/CE(RED)/ Deutsche Telekom	RoHS*/REACH*/CE(RED)*
Typical Applications	Pet Tracking, Asset Tracking	



o: Optional * : Under Developing/On-going/Planning

GNSS Module

Technology	GNSS	
Product	SIM339EAU	SIM39EAU
Picture		
Form Factor	LCC, 16PIN	LCC, 16PIN
Dimensions(mm)	22.0*22.0*7.5	22.0*22.0*7.5
Weight(g)	8.5	8.5
Temperature	-40°C~+85°C	-40°C~+85°C
Chipset	MT3333	MT3339
Electrical Features		
Supply Voltage Range	2.8~4.3V	2.8~4.3V
I/O Voltage	2.8V	2.8V
Power Consumption	Acquisition	38mA
	Tracking	32mA
	Sleep	520µA
	Backup	13µA
GNSS		
GNSS	GPS/GLONASS/Galileo/QZSS	GPS
A-GPS	●	●
Channel Number	33 Track/99 Acq	22 Track/66 Acq
SBAS	WAAS/EGNOS/GAGAN/MSAS	WAAS/EGNOS/GAGAN/MSAS
Sensitivity	Tracking	-165 dBm
	Cold Start	-146 dBm
	Reacquisition	-160 dBm
TTFF (Time to First Fix)	Cold Start	31s
	Warm Start	26s
	Hot Start	<1s
Accuracy	Position	<2.5m CEP
	Velocity	0.1m/s
Max Update Rate	10Hz	10Hz
Baud Rate(default)	9600/115200	9600/115200
Jamming Detection	●	●
Anti-jamming	●	●
Built-in LNA	●	●
Interfaces		
UART	●	●
Reset		
Time Pulse	●	●
Digital I/O	●	●
Antenna		
Antenna Type	Passive	Passive
Antenna Power	Internal	Internal
Certification		
Certification	RoHS/REACH/CE(RE D)	RoHS/REACH/CE(RE D)
Typical Applications	Pet Tracking, Asset Tracking	



o: Optional * : Under Developing/On-going/Planning

GNSS Module

Technology	GNSS	
Product	SIM39EA	SIM39EAR
Picture		
Form Factor	LCC, 13PIN	LCC, 13PIN
Dimensions(mm)	16.0*16.0*6.2	16.0*16.0*6.2
Weight(g)	5.8	5.8
Temperature	-40°C~+85°C	-40°C~+85°C
Chipset	MT3339	MT3337
Electrical Features		
Supply Voltage Range	2.8~4.3V	2.8~4.3V
I/O Voltage	2.8V	2.8V
Power Consumption	Acquisition	32mA
	Tracking	27mA
	Sleep	400µA
	Backup	8µA
GNSS		
GNSS	GPS	GPS
A-GPS	●	●
Channel Number	22 Track/66 Acq	22 Track/66 Acq
SBAS	WAAS/EGNOS/GAGAN/MSAS	WAAS/EGNOS/GAGAN/MSAS
Sensitivity	Tracking	-165 dBm
	Cold Start	-147 dBm
	Reacquisition	-160 dBm
TTFF (Time to First Fix)	Cold Start	32s
	Warm Start	30s
	Hot Start	<1s
Accuracy	Position	<2.5m CEP
	Velocity	0.1m/s
Max Update Rate	10Hz	10Hz
Baud Rate(default)	9600/115200	9600/115200
Jamming Detection	●	●
Anti-jamming	●	●
Built-in LNA	●	●
Interfaces		
UART	●	●
Reset		
Time Pulse	●	●
Digital I/O	●	●
Antenna		
Antenna Type	Passive	Passive
Antenna Power	Internal	Internal
Certification		
Certification	RoHS/REACH/CE(RE D)	RoHS/REACH/CE(RE D)*
Typical Applications	Pet Tracking, Asset Tracking	

o: Optional * : Under Developing/On-going/Planning

Wi-Fi Module




Technology	Wi-Fi	
Product	W58	W59
Picture		
Form Factor	LCC, 32PIN	LCC, 40PIN
Dimensions(mm)	16.6 *13.0*2.1	16.0 *18.3*2.3
Weight(g)	1.0	1.2
Bluetooth	BT 3.0& BLE4.1	BT 3.0& BLE4.2
Temperature	-40°C ~ +85°C	-40°C ~ +85°C
General Features		
Frequency band	2.412 ~ 2.484 GHz	2.412 ~ 2.484 GHz 5.17~5.825GHz
Supply Voltage	3.2V~ 3.4V	3.2V~ 3.4V
WLAN Standard	IEEE 802.11 b/g/n	IEEE 802.11a/b/g/n/ac
Modulation Mode	CCK/BPSK/QPSK/16QAM/64QAM	DSSS/CCK/OFDM/BPSK/QPSK/16QAM/64QAM/256QAM
Encryption Mode	WEP/TKIP/AES/WPA-PSK/WPA2-PSK	WEP/TKIP/AES/WPA-PSK/WPA2-PSK
AP (Max Access Point)	30	30
Operator Mode	AP/STA	AP/STA
BT Protocol	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)		
BT 4.1 (Mbps)	Max. 24	Max. 24
Transmitting Power		
802.11b/11Mbps	18dBm	17.75dBm
802.11g/54Mbps	15dBm	TBD
802.11n_HT20/65Mbps	15dBm	16dBm
802.11n_HT40/135Mbps	14dBm	15.78dBm
Rx Sensitivity		
802.11b/1Mbps	-95dBm	TBD
802.11b/11Mbps	-94dBm	TBD
802.11g/6Mbps	-91dBm	TBD
802.11g/54Mbps	-78dBm	TBD
802.11n_HT20 MCS0	-90dBm	TBD
802.11n_HT40 MCS7	-75dBm	TBD
Interfaces		
SDIO 3.0	*1	*1
UART	*1	*1
LTE coexistence	*2	*2
BT_EN	*1	*1
WLAN_EN	*1	*1
Antenna	WiFi & BT Antenna	WiFi & BT Antenna *2
Certification		
Certification	RoHS*/REACH*/CE(RED)*	RoHS*/REACH*/CE(RED)*
Typical Applications	Fleet Management, Telematics, Security, Tracking, Agriculture, Smart City, Smart Health, Router, Gateway	

o: Optional * : Under Developing/On-going/Planning

W58: Must be working together with SIM7600X-H.

W59: Must be working together with SIM7800E

Wi-Fi Module

Technology	Wi-Fi		
Product	W80	W82	W74
Picture			
Form Factor	LCC+LGA, 90PIN	LCC+LGA, 90PIN	LCC+LGA, 90PIN
Dimensions(mm)	17.0 *24.0*2.9	17.0 *24.0*2.9	17.0 *24.0*2.6
Weight(g)	2.1	2.1	2.1
Bluetooth	BT 5.1&BLE5.0	BT 5.2&BLE5.0	BT 5.0&BLE5.0
Temperature	-40°C ~ +85°C	-40°C ~ +85°C	-30 C to +70 C
General Features			
Frequency band	2.412 ~ 2.484 GHz 5.17~5.825GHz	2.412 ~ 2.484 GHz 5.17~5.825GHz	2.412 ~ 2.484 GHz 5.17~5.825GHz
Supply Voltage	3.3V ~ 4.25V	3.3V ~ 4.25V	3.3V ~ 4.25V
WLAN Standard	IEEE 802.11a/b/g/n/ac/ax	IEEE 802.11a/b/g/n/ac/ax	IEEE 802.11a/b/g/n/ac
Modulation Mode	CCK, BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM	CCK, BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM	CCK, BPSK, QPSK, 16QAM, 64QAM, 256QAM
Encryption Mode	WPA3	WPA3	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)			
802.11g (Mbps)			
802.11n_HT20 (Mbps)			
802.11n_HT40 (Mbps)			
802.11ac_HT40 (Mbps)			
802.11ac_HT80 (Mbps)			
802.11ax_HT80 (Mbps)	Max.1.775Gbps	Max.3.6Gbps	
BT 4.1 (Mbps)		Max. 2Mbps	Max. 2Mbps
Transmitting Power			
802.11b/11Mbps	TBD	TBD	TBD
802.11g/54Mbps	TBD	TBD	TBD
802.11n_HT20/65Mbps	TBD	TBD	TBD
802.11n_HT40/135Mbps	TBD	TBD	TBD
Rx Sensitivity			
802.11b/1Mbps	TBD	TBD	TBD
802.11b/11Mbps	TBD	TBD	TBD
802.11g/6Mbps	TBD	TBD	TBD
802.11g/54Mbps		TBD	TBD
802.11n_HT20 MCS0	TBD	TBD	TBD
802.11n_HT40 MCS7	TBD	TBD	TBD
Interfaces			
SDIO 3.0			
UART	*1	*1	*1
LTE coexistence	*2	*2	*2
BT_EN	*1	*1	*1
WLAN_EN	*1	*1	*1
Antenna	WiFi & BT Antenna *2	WiFi & BT Antenna *2	WiFi & BT Antenna *2
Certification			
Certification	CE(RED)/RoHS*/REACH*	RoHS*/REACH*/CE(RED)*/RCM*/UKCA*/FCC*	RoHS*/REACH*/CE(RED)*
Typical Applications	Fleet Management, Telematics, Security, Tracking, Agriculture, Smart City, Smart Health, Router, Gateway		

o: Optional * : Under Developing/On-going/Planning

W82: Must be working together with SIM8260X

W80: Must be working together with SIM8200G.

W74: Must be working together with SIM7906X/SIM7912X