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5G Transform the Society

Founded in 1999, Fibocom is the first stock-listed (Stock Code: 300638) wireless module provider in China. As the leading global provider of IoT (Internet of Things) wireless solution and wireless communication modules, Fibocom provides one-stop services including wireless communication modules, IoT application solutions as well as cloud platforms, and are committed to bring reliable, accessible, secure and intelligent wireless solutions to every IoT application scenario. Our goals are to provide the perfect wireless experience for customers and enrich smart life of the whole society.

In the era of 5G where everything is connected, Fibocom has always maintained its technological leadership, launching the world's first 5G module to lead the industry penetration and application of 5G. We provide advanced and high-performance wireless modules include 5G, LTE-A Pro, LTE-A, LTE, LTE Cat1, LTE Cat M, NB-IoT, Android Smart, Automotive, WCDMA/HSPA(+), GSM/GPRS, Wi-Fi, GNSS, etc. We empower the intelligent future of all industries, mainly including ACPC (Always Connected PC), smart retail, C-V2X, smart energy, public security, industrial IoT, smart cities, smart agriculture, smart home, telemedicine and other industry fields under digital transformation.

For latest company information, please visit our official website www.fibocom.com or

-  facebook.com/fibocom
-  youtube.com/fibocom
-  twitter.com/Fibocom_IoT
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IoT

We offer the world's leading wireless communication modules to empower digital transformation and help industry customers seek and seize global IoT opportunities.



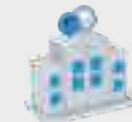
Vehicle & Transportation

- Fleet Management
- C-V2X
- ADAS
- T-Box
- DVR
- UBI
- ITS
- IVI



Public Security

- Police Enforcement System
- Smoke Detector
- Access Control
- Burglar Alarm
- Drone
- PoC
- IPC



Smart Cities

- Environment Monitoring
- Smart Transportation
- Shared Battery Swap
- Cold Chain Logistics
- Smart Lighting
- Shared Bicycle
- Smart Parking



Smart Energy

- Smart Charging Pile
- Smart Meter
- Smart Grid



Smart Retail

- 5G Smart Dressing Mirror
- Vending Machine
- Digital Signage
- POS



Industrial Interconnection

- Predictive Maintenance
- Flexible Manufacturing
- Smart Manufacturing
- Warehouse Logistics
- Industrial Handheld
- Industrial Flat Panel
- AGV



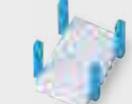
Home & Healthcare

- Wearable Devices
- Smart Appliance
- Telemedicine
- Smart Lock



Consumer Electronics

- Mobile Tablet
- AR/VR
- ACPC



Connectivity Equipment



- Home/Business/Industrial CPE
- Home/Industrial Gateway
- Home/Industrial Router
- SD-WAN

Fibocom 5G Module Series

Product Name	FM160-EAU	FM160-NA
Air Interface Region	NR Sub6 Asia / Europe / Australia (excluding China)	NR Sub6 North America
Picture		
Basic Features		
Package	M.2	M.2
Dimension (mm)	30.0 x 52.0 x 2.3	30.0 x 52.0 x 2.3
Sub-6	n1/3/5/7/8/20/28/38/40/41/75/76/77/78	n2/5/12/14/25/30/41/48/66/70/71/77
mmWave	NA	NA
LTE FDD	B1/3/5/7/8/20/28/32	B2/4/5/12/13/29/30/66/71
LTE TDD	B38/40/41/42/43	B41/46(LAA)/48
WCDMA	B1/5/8	B2/4/5
Operation mode	NSA & SA	NSA & SA
Antenna	4	4
Power Supply	3.135V ~ 4.4V(Typical 3.8V)	3.135V ~ 4.4V(Typical 3.8V)
Operating Temp.	-30°C ~ +75°C	-30°C ~ +75°C
Key Functions		
NR MIMO	DL 4*4MIMO: n1/3/5/7/20/28/38/40/41/75/76/77/78 UL 2*2MIMO: n41/77/78	DL 4*4MIMO: n2/5/12/14/25/30/41/48*/66/70/71/77 UL 2*2MIMO: n41/77
LTE MIMO	DL 4*4 MIMO: B1/3/5/7/20/28/32/38/40/41/42/43	DL 4*4MIMO: B2/4/5/12/13/30/41/48/66/71
NR SA (Mbps)	2470(DL) / 900(UL)	2470(DL) / 900(UL)
NR ENDC (Mbps)	3470(DL) / 555(UL)	3470(DL) / 555(UL)
LTE (Mbps)	1600(DL) / 211(UL)	1600(DL) / 211(UL)
WCDMA (Mbps)	42(DL) / 5.76(UL)	42(DL) / 5.76(UL)
Functions		
Voice	VoLTE & VoNR	VoLTE & VoNR(Optional)
SMS	SMS over IP(IMS)	SMS over IP(IMS)
Audio	●	●
FOTA	●	●
OS Drivers	Windows/Linux/Android	Windows/Linux/Android
GNSS	Optional	Optional
Interfaces		
USB	USB3.1/3.0 & USB2.0	USB3.1/3.0 & USB2.0
PCIe	PCIe4.0	PCIe4.0
UART	NA	NA
SPI	●	●
GPIO	●	●
I2S	NA	NA
SDIO	NA	NA
UIM	●	●
I2C	●	●
MIPI	●	●
RGMI	NA	NA
Certification		
Regulation	CE*/RCM*/RoHS*	FCC*/IC*/RoHS*
Operator	NA	AT&T*/Verizon*/TMO*
Industry	GCF*/HF*	PTCRB*/GCF*/HF*

* =planning /under development

Fibocom 5G Module Series

Product Name	FG160-EAU	FG160-NA
Air Interface Region	Sub6 Asia / Europe/ Australia (excluding China)	Sub6 North America
Picture		
Basic Features		
Package	LGA	LGA
Dimension (mm)	41.0x44.0x2.75	41.0x44.0x2.75
Sub-6	n1/3/5/7/8/20/28/38/40/41/75/76/77/78/79	n2/5/12/14/25/30/41/48/66/70/71/77
mmWave	NA	NA
LTE FDD	B1/3/5/7/8/20/28/32	B2/4/5/12/13/29/30/66/71
LTE TDD	B38/40/41/42/43	B41/46(LAA)/48
WCDMA	B1/5/8	NA
Operation mode	NA	NA
Antenna	4+1(GNSS)	4+1(GNSS)
Power Supply	3.135V ~ 4.4V(Typical 3.8V)	3.135V ~ 4.4V(Typical 3.8V)
Operating Temp.	-30°C ~ +75°C	-30°C ~ +75°C
Key Functions		
NR MIMO	DL 4*4MIMO: n1/3/5/7/20/28/38/40/41/75/76/77/78/79 UL 2*2MIMO: n41/77/78/79	DL 4*4MIMO: n2/5/12/14/25/30/41/48*/66/70/71/77 UL 2*2MIMO: n41/77
LTE MIMO	DL 4*4MIMO: B1/3/5/7/8/20/28/32/38/40/41/42/43 UL 1*1	DL 4*4MIMO: B2/4/5/12/13/30/41/48/66/71
NR SA (Mbps)	2470(DL) / 900(UL)	2470(DL) / 900(UL)
NR ENDC (Mbps)	3470(DL) / 555(UL)	3470(DL) / 555(UL)
LTE (Mbps)	1600(DL) / 211(UL)	1600(DL) / 211(UL)
WCDMA (Mbps)	42(DL) / 5.76(UL)	42(DL) / 5.76(UL)
Functions		
Voice	VoLTE & VoNR	VoLTE & VoNR
SMS	SMS over IP(IMS)	SMS over IP(IMS)
Audio	●	●
FOTA	●	●
OS Drivers	Windows/Linux/Android	Windows/Linux/Android
GNSS	GPS/GLONASS/Galileo/BeiDou	GPS/GLONASS/Galileo/BeiDou
Interfaces		
USB	USB3.1/3.0 & USB2.0	USB3.1/3.0 & USB2.0
PCIe	PCIe4.0	PCIe4.0
UART	●	●
SPI	●	●
GPIO	●	●
I2S	●	●
SDIO	●	●
UIM	●	●
I2C	●	●
MIPI	●	●
RGMI	NA	NA
Certification		
Regulation	CE*/RCM*/RoHS*	FCC*/IC*/RoHS*
Operator	NA	AT&T*/Verizon*/TMO*
Industry	GCF*/HF*	PTCRB*/GCF*/HF*

* =planning /under development

Fibocom 5G Module Series

Product Name	FG150-AE	FM150-AE
Air Interface	NR Sub6	
Region	Asia / Europe / Australia (excluding China)	
Picture		
Basic Features		
Package	LGA	M.2
Dimension (mm)	41.0 x 44.0 x 2.75	30.0 x 52.0 x 2.3
Sub-6	n1/3/5/7/8/20/28/38/40/41/77/78/79	N1/3/5/7/8/20/28/38/40/41/77/78/79
mmWave	NA	NA
LTE FDD	B1/3/5/7/8/18/19/20/28/32	B1/2/3/5/7/8/18/19/20/28/32
LTE TDD	B38/40/41/42/43	B34/38/39/40/41/42/43
WCDMA	B1/3/5/8/19	B1/5/6/8/19
Operation mode	NSA & SA	NSA & SA
Antenna	6 +1(GPS)	4
Power Supply	3.3V ~ 4.4V(Typical 3.8V)	3.135V ~ 4.4V(Typical 3.8V)
Operating Temp.	-30°C ~ +75°C	-30°C ~ +75°C
Key Functions		
NR MIMO	DL 4 x 4 MIMO: n1/3/7/38/40/41/77/78/79 UL 2 x 2 MIMO: n41/77/78/79	DL 4 x 4 MIMO: n1/3/5/7/8/20/28/38/40/41/77/78/79 UL 2 x 2 MIMO: n41/77/78/79
LTE MIMO	DL 4 x 4 MIMO: B1/3/7/32/38/40/41/42/43 UL 1 x 1 MIMO	DL 4 x 4 MIMO: B1/2/3/5/7/8/18/19/20/28/32/34/38/39/40/41/42/43 UL:1 x 1 MIMO
NR SA (Mbps)	2100(DL)/900(UL)	2100(DL)/900(UL)
NR ENDC (Mbps)	2500(DL)/600(UL)	4100(DL) / 555(UL)
LTE (Mbps)	1000(DL)/150(UL)	2000(DL) / 211(UL)
WCDMA (Mbps)	42(DL)/5.76(UL)	42(DL)/5.76(UL)
Functions		
Voice	VoLTE	VoLTE
SMS	SMS over IP(IMS)	SMS over IP(IMS)
Audio	●	●
FOTA	●	●
OS Drivers	Linux/Android	Windows/Linux/Android
GNSS	GPS/GLONASS/Galileo/BeiDou/QZSS	GPS/GLONASS/Galileo/BeiDou/QZSS
Interfaces		
USB	USB3.1/3.0 & USB2.0	USB3.1/3.0 & USB2.0
PCIe	PCIe3.0	PCIe3.0
UART	●	NA
SPI	●	NA
GPIO	●	●
I2S	●	NA
SDIO	●	NA
UIM	●	●
I2C	●	●
MIPI	●	●
RGMII	●	NA
Certification		
Regulation	CE/RCM/RoHs	CE/RCM/RoHs/JATE*/TELEC*
Operator	DT	DT/VDF*/Telstra*/Telefonica*
Industry	GCF/HF	GCF/HF



* =planning /under development

Fibocom 5G Module Series

Product Name	FM150-NA
Air Interface	NR Sub6
Region	North America
Picture	
Basic Features	
Package	M.2
Dimension (mm)	30.0 x 52.0 x 2.3
Sub-6	n2/5/7/12/25/41/48/66/71/77/78
mmWave	NA
LTE FDD	B2/4/5/7/12/13/14/17/25/26/29/30/66/71
LTE TDD	B41/42/43/46(LAA)/48(CBRS)
WCDMA	B1/2/4/5/8
Operation mode	NSA & SA
Antenna	4
Power Supply	3.135V ~ 4.4V(Typical 3.8V)
Operating Temp.	-30°C ~ +75°C
Key Functions	
NR MIMO	DL 4 x 4 MIMO: n2/7/25/66/41/48/78/71 UL 1 x 1 MIMO
LTE MIMO	DL 4 x 4 MIMO: B2/4/7/25/30/41/42/43/48/66/71 UL 1 x 1 MIMO
NR SA (Mbps)	2100(DL)/450(UL)
NR ENDC (Mbps)	4100(DL)/555(UL)
LTE (Mbps)	2000(DL)/211(UL)
WCDMA (Mbps)	42(DL)/5.76(UL)
Functions	
Voice	VoLTE
SMS	SMS over IP(IMS)
Audio	●
FOTA	●
OS Drivers	Windows/Linux/Android
GNSS	GPS/GLONASS/Galileo/BeiDou/QZSS
Interfaces	
USB	USB3.1/3.0 & USB2.0
PCIe	PCIe3.0
UART	NA
SPI	NA
GPIO	●
I2S	NA
SDIO	NA
UIM	●
I2C	●
MIPI	●
RGMII	NA
Certification	
Regulation	FCC/IC/RoHs
Operator	TMO/AT&T
Industry	HF/PTCRB


* =planning /under development

Fibocom 5G Module Series

Product Name	FG360-EAU	FG360-NA
Air Interface	NR Sub6	
Region	Europe/Australia	North America
Picture		
Basic Features		
Package	LGA	LGA
Dimension (mm)	41.0 x 44.0 x 2.75	41.0 x 44.0 x 2.75
Sub-6	n1/3/5/7/8/20/28(a&b)/38/40/41/77/78/79	n2/5/7/12/14/25/30/41/48/66/71/77/78
mmWave	NA	NA
LTE FDD	B1/3/5/7/8/18/19/20/26/28/32	B2/4/5/7/12/13/14/17/25/26/29/30/66/71
LTE TDD	B38/40/41/42/43/46(LAA)	B41/46(LAA)/48(CBRS)
WCDMA	B1/5/8	B2/4/5
Operation mode	NSA & SA	NSA & SA
Antenna	6+1/8+1(GNSS)	6+1(GNSS)
Power Supply	3.3V ~ 4.4V(Typical 3.8V)	3.3V ~ 4.4V(Typical 3.8V)
Operating Temp.	-30°C ~ +75°C	-30°C ~ +75°C
Key Functions		
NR MIMO	DL 4 x 4 MIMO: n1/3/7/38/40/41/77/78/79 UL 2 x 2 MIMO: n41/77/78/79	DL 4 x 4 MIMO: n2/7/25/30/41/48/66/77/78 UL 2 x 2 MIMO: n41/77/78
LTE MIMO	DL 4 x 4 MIMO: B1/3/7/32/38/40/41/42/43	DL 4 x 4 MIMO: B2/4/7/25/30/41/48/66
NR SA (Mbps)	4670(DL)/1250(UL)	
NR ENDC (Mbps)	3740(DL)/730M(UL)	
LTE (Mbps)	1600(DL)/211(UL)	
WCDMA (Mbps)	42(DL)/11(UL)	
Functions		
Voice	VoLTE	
SMS	SMS over IP(IMS) & SMS over NAS	
Audio	●	
FOTA	●	
OS Drivers	Linux	
GNSS	GPS/GLONASS/Galileo/BeiDou/QZSS	
Interfaces		
USB	USB3.1	
PCIe	PCIe3.0	
UART	●	
SPI	●	
GPIO	●	
I2S	●	
SDIO	●	
UIM	●	
I2C	●	
MIPI	●	
RGMI	SGMII/HSGMII	
Certification		
Regulation	CE*/RCM*/RoHS*/Reach*/KC*	FCC*/IC*/RoHS*/Reach*
Operator	VDF*/KT*/DT*/Telstra*/Telefonica*	AT&T*/Verizon*/TMO*
Industry	GCF*/HF*	PTCRB*/GCF*/HF*



* =planning /under development

Fibocom 5G Module Series

Product Name	FM350-GL
Air Interface	5G NR FR1/LTE Cat 19
Region	Global
Picture	
Basic Features	
Package	M.2
Dimension (mm)	52.0 x 30.0 x 2.3
NR	N1/2/3/5/7/8/20/25/28/30/38/40/41/48/66/71/77/78/79
LTE FDD	B1/2/3/4/5/7/8/12/13/14/17/18/19/20/25/26/28/29/30/32/66/71
LTE TDD	B34/38/39/40/41/42/43/46/48
WCDMA	B1/2/4/5/8
TD-SCDMA	NA
EVDO	NA
CDMA2000 1X	NA
GSM/GPRS/EDGE	NA
Power Supply	3.135V ~ 4.4V(Typical 3.3V)
Operating Temp.	-10°C ~ +55°C
Key Functions	
SA 5G/NR Sub-6 Peak (Gbps)	4.67(DL)/1.25(UL)
FR1(Sub-6) NSA Peak (Gbps)	3.74(DL)/ 835Mbps(UL)
LTE FDD (Gbps)	1.6(DL)/ 211Mbps(UL)
LTE TDD (Gbps)	1.22(DL)/90Mbps (UL)
DC-HSPA+(Mbps)	42(DL)/11.5(UL)
HSPA/HSPA+(Mbps)	21(DL)/5.76(UL)
UMTS(kbps)	384(DL)/384(UL)
TD-SCDMA (Mbps)	NA
EVDO(Mbps)	NA
CDMA2000 1X(kbps)	NA
EDGE(Kbps)	NA
GPRS(Kbps)	NA
Functions	
eSIM	●
Remote SIM	NA
eCALL	NA
OpenCPU	NA
MUX	NA
Jamming Detection	NA
USSD	●
STK	●
LBS	NA
FOTA	NA
OS Drivers	Windows/Chrome/Linux
GNSS	●
MMS	NA
CSD	NA
TTS	NA
SMS	●
Analog Audio	NA
Digital Audio	NA
Voice Code	NA
Audio Play/Record Protocols	NA
Interfaces	
SIM	x1, 3V/1.8V, eSIM on board
USB	USB 2.0 (For debug)/USB 3.1 Gen1 (Reserved)
PCIe	●
UART	Remove
SPI	NA
ADC	NA
GPIO	I2S(Reserved), I2C(Reserved)
Certification	
Regulation	FCC/IC/SRRC/ACMA/AITI/AMRTP/ANAC/ANATEL/ANF/ANRCETI/ANRT/ANRTIC/ARCEP/ARCOTEL/ARCT/ARN/ARPT/ARPTC/ART/ART&P/ARTCI/ARTEC/ARTP/ARTPA/ASEP/ATT/BICMA/BOCRA/BTK/BTP/BTRC/CA/CAM/CCC/CCK/CE/CITC/CITRA/CONATEL/CRAN/CRC/DICT/DOT/DTZ/DWLF&M/ENACOM/FAC/FCC/IC/ICA/ICASA/ICTA/ictQATAR/IFETEL/IMDA/INACOM/INCM/INDOTEL/JATE/KC/LCA/LTA/MACRA/MCIT/MCPT/MIC/MIIT (SRRC)/MINCOM/MOC/MOCI/MOT/MPT/MPTC/MSIT/MTC/NAL/NATCOM/NBTC/NCA/NCC/NICTA/NTA/NTC/NTRA/NTRC/OFC/OFCA/OFTEL/POSTEL (SDPPI)/POTRAZ/PSRC/PTA/PUC/PURA/RATEL/RCM/RSM/RURA/SCCOM/SIGET/SIRIM/SIT/SMA/SUBTEL/SUTEL/SYTRA/TAF/TAS/TASHKENT/TAT/TCRA/TCSE/TELCOR/TELEC/TRA/TRC/TU/UCC/URCA/URSEC/WPC/ZICTA
Operator	AT&T/Verizon/TMO/VDF/Telefonica/CMCC/Swisscom/DT/CUC/CTC/Telstra/Optus/Docomo/KDDI/SFB
Industry	GCF/PTCRB/HF



* =planning /under development

Fibocom LTE A Module Series

Product Name	NL952-NA-00	NL952-EAU-10
Air Interface	LTE Cat 20	LTE Cat 18
Region	North America	Europe/Asia/Australia
Picture		
Basic Features		
Package	M.2	M.2
Dimension (mm)	30.0 x 52.0 x 2.3	30.0 x 52.0 x 2.3
Sub-6	NA	NA
mmWave	NA	NA
LTE FDD	B2/4/5/7/12/13/14/17/25/26/29/30/66/71	B1/3/5/7/8/18/19/20/28/32
LTE TDD	B41/46(LAA)/48(CBRS)	B38/40/41/42/43/48(CBRS)
WCDMA	B2/4/5	B1/5/6/8/19
Operation mode	NA	NA
Antenna	4	4
Power Supply	3.3V ~ 4.4V(Typical 3.8V)	3.3V ~ 4.4V(Typical 3.8V)
Operating Temp.	-30°C ~ +70°C	-30°C ~ +70°C
Key Functions		
NR MIMO	NA	NA
LTE MIMO	DL 4 x 4 MIMO: B2/4/7/25/30/41/48/66	DL 4 x 4 MIMO: B1/3/7/32/38/40/41/42
NR SA (Mbps)	NA	NA
NR ENDC (Mbps)	NA	NA
LTE (Mbps)	2000(DL)/150(UL)	1200(DL) / 150(UL)
WCDMA (Mbps)	42(DL) / 5.76(UL)	42(DL) / 5.76(UL)
Functions		
Voice	VoLTE	VoLTE
SMS	●	●
Audio	●	●
FOTA	●	●
OS Drivers	Linux/Android	Linux/Android
GNSS	GPS/GLONASS/Galileo/BeiDou	GPS/GLONASS/Galileo/BeiDou
Interfaces		
USB	USB3.0/2.0	USB3.0/2.0
PCIe	PCIe2.0	PCIe2.0
UART	NA	NA
SPI	NA	NA
GPIO	●	●
I2S	NA	NA
SDIO	NA	NA
UIM	●	●
I2C	●	●
MIPI	●	●
RGMII	NA	NA
Certification		
Regulation	IC/FCC	CE/RCM/RoHs
Operator	AT&T*/TMO	NA
Industry	PTCRB*/GCF	GCF/HF


* =planning /under development

Fibocom LTE A Module Series

Product Name	NL952-NA-20	NL952-EAU-20
Air Interface	LTE Cat 12	LTE Cat 12
Region	North America	Europe/Asia/Australia
Picture		
Basic Features		
Package	M.2	M.2
Dimension (mm)	30.0 x 52.0 x 2.3	30.0 x 52.0 x 2.3
Sub-6	NA	NA
mmWave	NA	NA
LTE FDD	B2/4/5/7/12/13/14/17/25/26/29/30/66/71	B1/3/5/7/8/18/19/20/28/32
LTE TDD	B41/46(LAA)/48(CBRS)	B38/40/41/42/43/48(CBRS)
WCDMA	B2/4/5	B1/5/6/8/19
Operation mode	NA	NA
Antenna	4	4
Power Supply	3.3V ~ 4.4V(Typical 3.8V)	3.3V ~ 4.4V(Typical 3.8V)
Operating Temp.	-30°C ~ +70°C	-30°C ~ +70°C
Key Functions		
NR MIMO	NA	NA
LTE MIMO	DL 4 x 4 MIMO: B2/4/7/25/30/41/48/66	DL 4 x 4 MIMO: B1/3/7/32/38/40/41/42
NR SA (Mbps)	NA	NA
NR ENDC (Mbps)	NA	NA
LTE (Mbps)	600(DL)/150(UL)	600(DL)/150(UL)
WCDMA (Mbps)	42(DL) / 5.76(UL)	42(DL) / 5.76(UL)
Functions		
Voice	VoLTE	VoLTE
SMS	●	●
Audio	●	●
FOTA	●	●
OS Drivers	Linux/Android	Linux/Android
GNSS	GPS/GLONASS/Galileo/BeiDou	GPS/GLONASS/Galileo/BeiDou
Interfaces		
USB	USB3.0/2.0	USB3.0/2.0
PCIe	PCIe2.0	PCIe2.0
UART	NA	NA
SPI	NA	NA
GPIO	●	●
I2S	NA	NA
SDIO	NA	NA
UIM	●	●
I2C	●	●
MIPI	●	●
RGMII	NA	NA
Certification		
Regulation	IC/FCC	CE/RCM/RoHs
Operator	TMO	NA
Industry	PTCRB*/GCF	GCF/HF


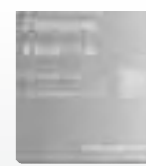
* =planning /under development

Fibocom LTE A Module Series

Product Name	L860-GL
Air Interface	LTE Cat 16
Region	Global
Picture	
Basic Features	
Package	M.2
Dimension (mm)	42.0 x 30.0 x 2.3
LTE FDD	B1/2/3/4/5/7/8/12/13/14/17/18/19/20/25/26/28/29/30/32/66/71
LTE TDD	B34/38/39/40/41/42/43/46/48
WCDMA	B1/2/4/5/8
TD-SCDMA	NA
EVDO	NA
CDMA2000 1X	NA
GSM/GPRS/EDGE	NA
Power Supply	3.135V ~ 4.4V(Typical 3.3V)
Operating Temp.	-10°C ~ +55°C
Key Functions	
SA 5G/NR Sub-6 Peak (Gbps)	NA
FR1(Sub-6) NSA Peak (Gbps)	NA
LTE FDD (Mbps)	1Gbps (DL)/150(UL)
LTE TDD (Mbps)	756(DL)/90 (UL)
DC-HSPA+(Mbps)	42(DL)/5.76(UL)
HSPA/HSPA+(Mbps)	21(DL)/ 5.76(UL)
UMTS(kbps)	384(DL)/384(UL)
TD-SCDMA (Mbps)	NA
EVDO(Mbps)	NA
CDMA2000 1X(kbps)	NA
EDGE(Kbps)	NA
GPRS(Kbps)	NA
Functions	
eSIM	●
Remote SIM	NA
eCALL	NA
OpenCPU	NA
MUX	NA
Jamming Detection	NA
USSD	Remove
STK	Remove
LBS	Remove
FOTA	NA
OS Drivers	Windows/Linux
GNSS	●
MMS	NA
CSD	NA
TTS	NA
SMS	Remove
Analog Audio	NA
Digital Audio	NA
Voice Code	NA
Audio Play/Record Protocols	NA/MBIM
Interfaces	
SIM	X1, 3V/1.8V, eSIM on board
USB	USB 2.0(For debug)
PCIe	●
UART	Reserved
SPI	NA
ADC	NA
GPIO	I2C(Reserved)
Certification	
Regulation	IC(Canada)/FCC(North America)/CE(Europe)/NCC(Taiwan)/NAL & CCC & SRR(C)China)/GCF(Global)/PTCRB(North America)/JATE & TELEC(Japan)/ANATEL(Brazil)/ENACOM(Argentina)/ACMA(Australia)/MCIT(Azerbaijan)/DWLF&M(Bahrain)/TU(Barbados)/MOCI(Belarus)/ATT(Bolivia)/Bocra(Botswana)/ATH(Brunei)/MPTC(Cambodia)/ART(Cameroon)/CRC(Colombia)/NTRA(Egypt)/TAF(Fiji)/ARCEP(Gabon)/NCA(Ghana)/CONATEL(Honduras)/POSTEL (SDPP)(Indonesia)/CMC(Iraq)/ARTCI(Ivory Coast)/SMA(Jamaica)/TRC(Jordan)/CA(KENYA)/KC(Korea)/CIIRA(Kuwait)/MPTC(Laos)/MOT(Lebanon)/SIRIM(Malaysia)/ICTA(Mauritius)/IFETEL(Mexico)/ANRCETI(Moldova)/ANRT(Morocco)/INCM(Mozambique)/NTA(Nepal)/Curacao(Netherlands Antilles)/NCC(Nigeria)/TRA(Oman)/PTA(Pakistan)/CONATEL(Paraguay)/MTC(Peru)/NTC(Philippines)/ictQATAR(Qatar)/EAC(Russia)/CITC(Saudi Arabia)/ARTP(SENEGAL)/RATEL(Serbia)/IMDA(Singapore)/ICASA(South Africa)/KC(South Korea)/TRCSL(Sri Lanka)/SCCOM(Swaziland)/TCRA(TANZANIA)/NBTC(Thailand)/TATT(Trinidad and Tobago)/MINCOM(Tunisia)/UkrSEPRO(Ukraine)/TRA(U.A.E)/URSEC(Uruguay)/TASHKENT(Uzbekistan)/CONATEL(Venezuela)/MIC(Vietnam)/POTRAZ(ZIMBABWE)/RoHS/Reach/HF/CB/UL
Operator	AT&T/Verizon/T-Mobile/Sprint/DTAG/Vodafone/Telefonica/Swisscom/DoCoMo/KDDI/Softbank/Telstra/Optus
Industry	GCF/PTCRB/HF


* =planning /under development

Fibocom LTE A Module Series

Product Name	FG101-EAU-00	FG101-LA-00
Air Interface	LTE Cat 12	LTE Cat 12
Region	Asia/ Europe/ Australia	Latin America
Picture		
Basic Features		
Package	LGA	LGA
Dimension (mm)	37.0 x 39.5 x 2.8	37.0 x 39.5 x 2.8
Sub-6	NA	NA
mmWave	NA	NA
LTE FDD	B1/3/5/7/8/18/19/20/28/32	B1/2/3/4/5/7/8/20/28/66
LTE TDD	B38/40/41(120M)/42/43/48(CBRS)	B38/40/41/42/43
WCDMA	B1/3/5/6/8/19	B1/2/4/5/8
Operation mode	NA	NA
Antenna	4+1(GNSS)	4+1(GNSS)
Power Supply	3.3V~ 4.4V(Typical 3.8V)	3.3V ~ 4.4V(Typical 3.8V)
Operating Temp.	-30°C ~ +75°C	-30°C ~ +75°C
Key Functions		
NR MIMO	NA	NA
LTE MIMO	DL 4 x 4 MIMO: B1/3/7/38/40/41/42	DL 4 x 4 MIMO: B1/3/7/38/40/41/42
NR SA (Mbps)	NA	NA
NR ENDC (Mbps)	NA	NA
LTE (Mbps)	600(DL) / 150(UL)	600(DL) / 150(UL)
WCDMA (Mbps)	42(DL) / 11(UL)	42(DL) / 11(UL)
Functions		
Voice	VoLTE	VoLTE
SMS	SMS over IP(IMS)	SMS over IP(IMS)
Audio	●	●
FOTA	●	●
OS Drivers	Linux/Android/Windows	Linux/Android/Windows
GNSS	GPS/GLONASS/Galileo/BeiDou	GPS/GLONASS/Galileo/BeiDou
Interfaces		
USB	USB3.0/2.0	USB3.0/2.0
PCIe	PCIe2.0	PCIe2.0
UART	●	●
SPI	●	●
GPIO	●	●
I2S	●	●
SDIO	●	●
UIM	●	●
I2C	●	●
MIPI	NA	NA
RGMI	NA	NA
Certification		
Regulation	CE/UKCA/RCM*/RoHS/HF*/Reach	FCC*
Operator	DT*/VDF*	NA
Industry	GCF*	NA


* =planning /under development

Fibocom LTE A Module Series

Product Name	L850-GL
Air Interface	LTE Cat 9
Region	Global
Picture	
Basic Features	
Package	M.2
Dimension (mm)	42.0 x 30.0 x 2.3
LTE FDD	B1/2/3/4/5/7/8/11/12/13/17/18/19/20/21/26/28/29/30/66
LTE TDD	B38/39/40/41
WCDMA	B1/2/4/5/8
TD-SCDMA	NA
EVDO	NA
CDMA2000 1X	NA
GSM/GPRS/EDGE	NA
Power Supply	3.135V ~ 4.4V(Typical 3.3V)
Operating Temp.	-10°C ~ +55°C
Key Functions	
SA 5G/NR Sub-6 Peak (Gbps)	NA
FR1(Sub-6) NSA Peak (Gbps)	NA
LTE FDD (Mbps)	450(DL)/50(UL)
LTE TDD (Mbps)	347(DL)/30(UL)
DC-HSPA+(Mbps)	42(DL)/5.76(UL)
HSPA/HSPA+(Mbps)	42(DL)/5.76(UL)
UMTS(kbps)	384(DL)/384(UL)
TD-SCDMA (Mbps)	NA
EVDO(Mbps)	NA
CDMA2000 1X(kbps)	NA
EDGE(Kbps)	NA
GPRS(Kbps)	NA
Functions	
eSIM	NA
Remote SIM	NA
eCALL	NA
OpenCPU	NA
MUX	NA
Jamming Detection	NA
USSD	NA
STK	NA
LBS	NA
FOTA	NA
OS Drivers	Windows/Linux
GNSS	NA
MMS	NA
CSD	NA
TTS	NA
SMS	NA
Analog Audio	NA
Digital Audio	NA
Voice Code	NA
Audio Play/Record Protocols	NCM/MBIM
Interfaces	
SIM	x1, 3V/1.8V
USB	USB 2.0 ; USB 3.1 (Linux*/Android*)
PCIe	●
UART	NA
SPI	NA
ADC	NA
GPIO	I2S(Reserved), I2C(Reserved)
Certification	
Regulation	CCC/SRRC/RoHS/FCC/CE/CB/ENACOM/MINCOM/RCM/Anatel/TRA/DOC/EAC/IC/TRC/SUBTEL/CRC/ARCOTEL/VOC/SDPPI/MOC/JPA&JRF/TRC/CCK/KCC/MOC/Lebanon/SIRIM/IFT/Morocco/NTA/PTA/MTC/NTC/CRA/FSS/FAC/ICASA/RATEL/CITC/IDA/NCC/NBTC/UkrSEPRO/Uzbekistan/Uruguay/Dealer Registration/VC/CONATEL/Ecuador/Nigeria
Operator	AT&T/Verizon/DCM/Softbank/KDDI/Optus/Telstra/Swisscom/DT/TEF/Vodafone
Industry	GCF/PTCRB/HF/CB




* =planning /under development

Fibocom LTE A Module Series

Product Name	FG101-EAU-20
Air Interface	LTE Cat 6
Region	Europe/Asia/Australia
Picture	
Basic Features	
Package	LGA
Dimension (mm)	37.0 x 39.5 x 2.8
Sub-6	NA
mmWave	NA
LTE FDD	B1/3/5/7/8/18/19/20/28/32
LTE TDD	B38/40/41(120M)
WCDMA	B1/3/5/8
Operation mode	NA
Antenna	2+1(GPS)
Power Supply	3.3V ~ 4.4V(Typical 3.8V)
Operating Temp.	-30°C ~ +75°C
Key Functions	
NR MIMO	NA
LTE MIMO	NA
NR SA (Mbps)	NA
NR ENDC (Mbps)	NA
LTE (Mbps)	300(DL) / 50(UL)
WCDMA (Mbps)	42(DL) / 11(UL)
Functions	
Voice	VoLTE
SMS	SMS over IP(IMS)
Audio	●
FOTA	●
OS Drivers	Linux/Android/Windows
GNSS	GPS/GLONASS/Galileo/BeiDou
Interfaces	
USB	USB3.0/2.0
PCIe	PCIe2.0
UART	●
SPI	●
GPIO	●
I2S	●
SDIO	●
UIM	●
I2C	●
MIPI	NA
RGMI	NA
Certification	
Regulation	CE/UKCA/RCM*/RoHS/HF*/Reach
Operator	DT*/VDF*
Industry	GCF*



* =planning /under development

Fibocom LTE A Module Series

Product Name	FM101-EAU-20	FM101-NA-20	FM101-CG-20
Air Interface	LTE Cat 6	LTE Cat 6	LTE Cat 6
Region	Asia/ Europe/ Australia	North America	North America (CBRS Global)
Picture			
Basic Features			
Package	M.2	M.2	M.2
Dimension (mm)	30.0 x 42.0 x 2.3	30.0 x 42.0 x 2.3	30.0 x 42.0 x 2.3
Sub-6	NA	NA	NA
mmWave	NA	NA	NA
LTE FDD	B1/3/5/7/8/20/28/32	B2/4/5/7/12/13/14/17/25/26/29/30/66/71	NA
LTE TDD	B38/40/41(120M)	B41(194M)/42/43/46(LAA)/48(CBRS)	B42/43/48(CBRS)
WCDMA	B1/3/5/8	B2/4/5	NA
Operation mode	NA	NA	NA
Antenna	2+1(GPS)	2+1(GPS)	2+1(GPS)
Power Supply	3.135V ~ 4.4V(Typical 3.8V)	3.135V ~ 4.4V(Typical 3.8V)	3.135V ~ 4.4V(Typical 3.8V)
Operating Temp.	-30°C ~ +75°C	-30°C ~ +75°C	-30°C ~ +75°C
Key Functions			
NR MIMO	NA	NA	NA
LTE MIMO	NA	NA	NA
NR SA (Mbps)	NA	NA	NA
NR ENDC (Mbps)	NA	NA	NA
LTE (Mbps)	300(DL) / 50(UL)	300(DL) / 50(UL)	300(DL) / 50(UL)
WCDMA (Mbps)	42(DL) / 11(UL)	42(DL) / 11(UL)	42(DL) / 11(UL)
Functions			
Voice	VoLTE	VoLTE	VoLTE
SMS	SMS over IP(IMS)	SMS over IP(IMS)	SMS over IP(IMS)
Audio	●	●	●
FOTA	●	●	●
OS Drivers	Linux/Android/Windows	Linux/Android/Windows	Linux/Android/Windows
GNSS	GPS/GLONASS/Galileo/BeiDou	GPS/GLONASS/Galileo/BeiDou	GPS/GLONASS/Galileo/BeiDou
Interfaces			
USB	USB3.0/2.0	USB3.0/2.0	USB3.0/2.0
PCIe	PCIe2.0	PCIe2.0	PCIe2.0
UART	●	●	●
SPI	●	●	●
GPIO	●	●	●
I2S	●	●	●
SDIO	NA	NA	NA
UIM	●	●	●
I2C	●	●	●
MIPI	NA	NA	NA
RGMII	NA	NA	NA
Certification			
Regulation	CE/RCM/RoHs	RoHS/HF/TSCA/IC/FCC	RoHS/HF/TSCA/Reach/FCC/CE*
Operator	DT	ATT/VZW/TMO*	NA
Industry	GCF*	PTCRB/GCF	NA


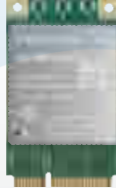

* =planning /under development

Fibocom LTE A Module Series

Product Name	FG621-LA	FG621-EA
Air Interface	LTE Cat 6	LTE Cat 6
Region	Latin America	EMEA/APAC
Picture		
Basic Features		
Package	LGA	LGA
Dimension (mm)	37.0 x 39.5 x 2.8	37.0 x 39.5 x 2.8
LTE FDD	B2/4/5/7/12/13/28/66	B1/3/5/7/8/20/28
LTE TDD	B40	B38/40/41
WCDMA	B2/4/5	B1/3/5/8
TD-SCDMA	NA	NA
EVDO	NA	NA
CDMA2000 1X	NA	NA
GSM/GPRS/EDGE	NA	NA
Power Supply	3.4V ~ 4.3V(Typical 3.8V)	3.4V ~ 4.3V(Typical 3.8V)
Operating Temp.	-30°C ~ +75°C	-30°C ~ +75°C
Extended Temp.	-40°C ~ +85°C	-40°C ~ +85°C
Data Transmission		
LTE FDD (Mbps)	300(DL)/50(UL)	300(DL)/50(UL)
LTE TDD (Mbps)	260(DL)/30(UL)	260(DL)/30(UL)
DC-HSPA+(Mbps)	42(DL)/11(UL)	42(DL)/11(UL)
HSPA/HSPA+(Mbps)	NA	NA
WCDMA(Kbps)	384(DL)/384(UL)	384(DL)/384(UL)
TD-SCDMA (Mbps)	NA	NA
EVDO(Mbps)	NA	NA
CDMA2000 1X(Kbps)	NA	NA
EDGE(Kbps)	NA	NA
GPRS(Kbps)	NA	NA
Functions		
eSIM	NA	NA
Remote SIM	NA	NA
eCALL	NA	NA
OpenCPU	NA	NA
MUX	NA	NA
Jamming Detection	NA	NA
USSD	●	●
STK	NA	NA
LBS	NA	NA
FOTA	DFOTA	DFOTA
OS Drivers	Linux/ Android*/ Windows*	Linux/ Android*/ Windows*
GNSS	NA	NA
MMS	NA	NA
CSD	NA	NA
TTS	NA	NA
SMS	●	●
Analog Audio	NA	NA
Digital Audio	●	●
Voice Code	NA	NA
Audio Play/Record	NA	NA
Protocols	DHCP/TCP*/UDP*/HTTP(S)*/FTP(S)*/IPv4/IPv6/SSL*/ECM/NCM/RNDIS	DHCP/TCP*/UDP*/HTTP(S)*/FTP(S)*/IPv4/IPv6/SSL*/ECM/NCM/RNDIS
Interfaces		
SIM	x 1, 1.8V/3.0V	x 1, 1.8V/3.0V
USB	x 1, USB2.0	x 1, USB2.0
PCIe	NA	NA
UART	x 4	x 4
SPI	●	●
ADC	x 2	x 2
GPIO	●	●
SDIO	●	●
PCM	●	●
SGMII	NA	NA
Certification		
Regulation	RoHS/ANATEL/FCC*	CE-RED/RCM/NCC/ANATEL/RoHS
Operator	NA	DT/VDF*
Industry	HF	HF/GCF


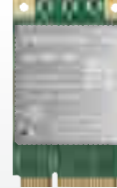

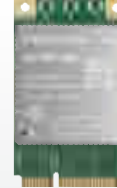
* =planning /under development

Fibocom LTE Module Series

Product Name	NL668-EAU	NL668-EAU MiniPCle	NL668-EAU-M.2
Air Interface	LTE Cat 4		
Region	EMEA/APAC		
Picture			
Basic Features			
Package	LCC+LGA	MiniPCle	M.2
Dimension (mm)	32.0 x 29.0 x 2.4	51.0 x 30.0 x 3.7	42.0 x 30.0 x 4.4
LTE FDD	B1/3/5/7/8/20/28	B1/3/5/7/8/20/28	B1/3/5/7/8/20/28
LTE TDD	B38/40/41	B38/40/41	B38/40/41
WCDMA	B1/5/8	B1/5/8	B1/5/8
TD-SCDMA	NA	NA	NA
EVDO	NA	NA	NA
CDMA2000 1X	NA	NA	NA
GSM/GPRS/EDGE	850/900/1800MHz	850/900/1800MHz	850/900/1800MHz
Power Supply	3.3V ~ 4.3V (Typical 3.8V)	3.3V ~ 4.3V (Typical 3.8V)	3.15V ~ 4.3V (Typical 3.3V)
Operating Temp.	-30°C ~ +75°C	-30°C ~ +75°C	-30°C ~ +75°C
Extended Temp.	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C
Data Transmission			
LTE FDD (Mbps)	150(DL)/50(UL)	150(DL)/50(UL)	150(DL)/50(UL)
LTE TDD (Mbps)	130(DL)/30.5(UL)	130(DL)/30.5(UL)	130(DL)/30.5(UL)
DC-HSPA+(Mbps)	42(DL)/5.76(UL)	42(DL)/5.76(UL)	42(DL)/5.76(UL)
HSPA/HSPA+(Mbps)	NA	NA	NA
WCDMA(Kbps)	384(DL)/384(UL)	384(DL)/384(UL)	384(DL)/384(UL)
TD-SCDMA (Mbps)	NA	NA	NA
EVDO(Mbps)	NA	NA	NA
CDMA2000 1X(Kbps)	NA	NA	NA
EDGE(Kbps)	296(DL)/236.8(UL)	296(DL)/236.8(UL)	296(DL)/236.8(UL)
GPRS(Kbps)	107(DL)/85.6(UL)	107(DL)/85.6(UL)	107(DL)/85.6(UL)
Functions			
eSIM	NA	NA	NA
Remote SIM	NA	NA	NA
eCALL	●	●	NA
OpenCPU	Optional	Optional	NA
MUX	●	●	●
Jamming Detection	NA	NA	NA
USSD	●	●	●
STK	NA	NA	NA
LBS	●	●	●
FOTA	DFOTA	DFOTA	DFOTA
OS Drivers	Linux/Windows/Android	Linux/Windows/Android	Linux/Windows/Android
GNSS	Optional	Optional	NA
MMS	NA	NA	NA
CSD	●	●	●
TTS	●	●	●
SMS	●	●	●
Analog Audio	NA	NA	NA
Digital Audio	●	●	●
Voice Code	●	●	●
Audio Play/Record	●	●	●
Protocols	TCP/UDP(S)/HTTP(S)/FTP(S)/IPv4/IPv6/SSL/TLS/MQTT/PING/NTP/FFS/NITZ/PPP/ECM/RNDIS/GobiNet/QMI_WWAN	TCP/UDP(S)/HTTP(S)/FTP(S)/IPv4/IPv6/SSL/TLS/MQTT/PING/NTP/FFS/NITZ/PPP/ECM/RNDIS/GobiNet/QMI_WWAN	TCP/UDP(S)/HTTP(S)/FTP(S)/IPv4/IPv6/SSL/TLS/MQTT/PING/NTP/FFS/NITZ/PPP/ECM/RNDIS/GobiNet/QMI_WWAN
Interfaces			
SIM	x 1, 1.8V/3.0V	x 1, 1.8V/3.0V	x 1, 1.8V/3.0V
USB	x 1, USB 2.0	x 1, USB 2.0	x 1, USB2.0
PCle	NA	NA	NA
UART	x 2	x 2	NA
SPI	●	●	●
ADC	x 2	NA	NA
GPIO	●	NA	NA
SDIO	●	NA	NA
PCM	●	●	●
SGMII	●	NA	NA
Certification			
Regulation	RoHS/CE-RED/NCC/RCM	RoHS/CE-RED/NCC/RCM	RoHS/CE-RED/NCC/RCM
Operator	DTAG*/Vodafone*/KC*	DTAG/Vodafone	DTAG/Vodafone
Industry	HF/GCF*	HF/GCF	HF/GCF

* =planning /under development

Fibocom LTE Module Series

Product Name	NL668-EU	NL668-EU MiniPCle	NL668-AM	NL668-AM MiniPCle
Air Interface	LTE Cat 4			
Region	Europe		North America	
Picture				
Basic Features				
Package	LCC+LGA	MiniPCle	LCC+LGA	MiniPCle
Dimension (mm)	32.0 x 29.0 x 2.4	51.0 x 30.0 x 3.7	32.0 x 29.0 x 2.4	51.0 x 30.0 x 3.7
LTE FDD	B1/3/5/7/8/20	B1/3/5/7/8/20	B2/4/5/12/13/17/66/71	B2/4/5/12/13/17/66/71
LTE TDD	NA	NA	NA	NA
WCDMA	B1/5/8	B1/5/8	B2/4/5	B2/4/5
TD-SCDMA	NA	NA	NA	NA
EVDO	NA	NA	NA	NA
CDMA2000 1X	NA	NA	NA	NA
GSM/GPRS/EDGE	850/900/1800MHz	850/900/1800MHz	NA	NA
Power Supply	3.3V ~ 4.3V (Typical 3.8V)	3.3V ~ 4.3V (Typical 3.8V)	3.3V ~ 4.3V (Typical 3.8V)	3.3V ~ 4.3V (Typical 3.8V)
Operating Temp.	-30°C ~ +75°C	-30°C ~ +75°C	-30°C ~ +75°C	-30°C ~ +75°C
Extended Temp.	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C
Data Transmission				
LTE FDD (Mbps)	150(DL)/50(UL)	150(DL)/50(UL)	150(DL)/50(UL)	150(DL)/50(UL)
LTE TDD (Mbps)	NA	NA	NA	NA
DC-HSPA+(Mbps)	42(DL)/5.76(UL)	42(DL)/5.76(UL)	42(DL)/5.76(UL)	42(DL)/5.76(UL)
HSPA/HSPA+(Mbps)	NA	NA	NA	NA
WCDMA(Kbps)	384(DL)/384(UL)	384(DL)/384(UL)	384(DL)/384(UL)	384(DL)/384(UL)
TD-SCDMA (Mbps)	NA	NA	NA	NA
EVDO(Mbps)	NA	NA	NA	NA
CDMA2000 1X(Kbps)	NA	NA	NA	NA
EDGE(Kbps)	296(DL)/236.8(UL)	296(DL)/236.8(UL)	NA	NA
GPRS(Kbps)	107(DL)/85.6(UL)	107(DL)/85.6(UL)	NA	NA
Functions				
eSIM	NA	NA	NA	NA
Remote SIM	NA	NA	NA	NA
eCALL	●	●	Optional	Optional
OpenCPU	Optional	Optional	Optional	Optional
MUX	●	●	●	●
Jamming Detection	NA	NA	NA	NA
USSD	●	●	●	●
STK	NA	NA	NA	NA
LBS	●	●	●	●
FOTA	DFOTA	DFOTA	DFOTA	DFOTA
OS Drivers	Linux/Windows/Android	Linux/Windows/Android	Linux/Windows/Android	Linux/Windows/Android
GNSS	Optional	Optional	Optional	Optional
MMS	NA	NA	NA	NA
CSD	●	●	NA	NA
TTS	●	●	●	●
SMS	●	●	●	●
Analog Audio	NA	NA	NA	NA
Digital Audio	●	●	●	●
Voice Code	●	●	●	●
Audio Play/Record	●	●	●	●
Protocols	TCP/UDP(S)/HTTP(S)/FTP(S)/IPv4/IPv6/SSL/TLS/MQTT/PING/NTP/FFS/NITZ/PPP/ECM/RNDIS/GobiNet/QMI_WWAN	TCP/UDP(S)/HTTP(S)/FTP(S)/IPv4/IPv6/SSL/TLS/MQTT/PING/NTP/FFS/NITZ/PPP/ECM/RNDIS/GobiNet/QMI_WWAN	TCP/UDP(S)/HTTP(S)/FTP(S)/IPv4/IPv6/SSL/TLS/MQTT/PING/NTP/FFS/NITZ/PPP/ECM/RNDIS/GobiNet/QMI_WWAN	TCP/UDP(S)/HTTP(S)/FTP(S)/IPv4/IPv6/SSL/TLS/MQTT/PING/NTP/FFS/NITZ/PPP/ECM/RNDIS/GobiNet/QMI_WWAN
Interfaces				
SIM	x 1, 1.8V/3.0V	x 1, 1.8V/3.0V	x 1, 1.8V/3.0V	x 1, 1.8V/3.0V
USB	x 1, USB 2.0	x 1, USB 2.0	x 1, USB 2.0	x 1, USB 2.0
PCle	NA	NA	NA	NA
UART	x 2	x 2	x 2	x 2
SPI	●	●	●	●
ADC	x 2	NA	x 2	NA
GPIO	●	NA	●	NA
SDIO	●	NA	●	NA
PCM	●	●	●	●
SGMII	●	NA	●	NA
Certification				
Regulation	CE-RED/RoHS	CE-RED/RoHS	FCC/RoHS/IC	FCC/RoHS/IC
Operator	NA	NA	Verizon/AT&T/T-Mobile	Verizon/AT&T/T-Mobile
Industry	GCF*/HF	GCF*/HF	GCF/HF/PTCRB	GCF/HF/PTCRB



* =planning /under development

Fibocom LTE Module Series

Product Name	NL668-LA	NL668-LA MiniPCle	NL668-JP	NL668-JP MiniPCle
Air Interface	LTE Cat 4			
Region	Latin America		Japan	
Picture				
Basic Features				
Package	LCC+LGA	MiniPCle	LCC+LGA	MiniPCle
Dimension (mm)	32.0 x 29.0 x 2.4	51.0 x 30.0 x 3.7	32.0 x 29.0 x 2.4	51.0 x 30.0 x 3.7
LTE FDD	B1/2/3/4/5/7/8/12/17/28/66	B1/2/3/4/5/7/8/12/17/28/66	B1/3/8/11/18/19/21/26/28	B1/3/8/11/18/19/21/26/28
LTE TDD	B38/40	B38/40	B41	B41
WCDMA	B1/2/3/4/5/8	B1/2/3/4/5/8	B1/6/8/19	B1/6/8/19
TD-SCDMA	NA	NA	NA	NA
EVDO	NA	NA	NA	NA
CDMA2000 1X	NA	NA	NA	NA
GSM/GPRS/EDGE	850/900/1800/1900MHz	850/900/1800/1900MHz	NA	NA
Power Supply	3.3V ~ 4.3V (Typical 3.8V)	3.3V ~ 4.3V (Typical 3.8V)	3.3V ~ 4.3V (Typical 3.8V)	3.3V ~ 4.3V (Typical 3.8V)
Operating Temp.	-30°C ~ +75°C	-30°C ~ +75°C	-30°C ~ +75°C	-30°C ~ +75°C
Extended Temp.	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C
Data Transmission				
LTE FDD (Mbps)	150(DL)/50(UL)	150(DL)/50(UL)	150(DL)/50(UL)	150(DL)/50(UL)
LTE TDD (Mbps)	130(DL)/30.5(UL)	130(DL)/30.5(UL)	130(DL)/30.5(UL)	130(DL)/30.5(UL)
DC-HSPA+(Mbps)	42(DL)/5.76(UL)	42(DL)/5.76(UL)	42(DL)/5.76(UL)	42(DL)/5.76(UL)
HSPA/HSPA+(Mbps)	NA	NA	NA	NA
WCDMA(Kbps)	384(DL)/384(UL)	384(DL)/384(UL)	384(DL)/384(UL)	384(DL)/384(UL)
TD-SCDMA (Mbps)	NA	NA	NA	NA
EVDO(Mbps)	NA	NA	NA	NA
CDMA2000 1X(Kbps)	NA	NA	NA	NA
EDGE(Kbps)	296(DL)/236.8(UL)	296(DL)/236.8(UL)	NA	NA
GPRS(Kbps)	107(DL)/85.6(UL)	107(DL)/85.6(UL)	NA	NA
Functions				
eSIM	NA	NA	NA	NA
Remote SIM	NA	NA	NA	NA
eCALL	Optional	Optional	Optional	Optional
OpenCPU	Optional	Optional	Optional	Optional
MUX	●	●	●	●
Jamming Detection	NA	NA	NA	NA
USSD	●	●	●	●
STK	NA	NA	NA	NA
LBS	●	●	●	●
FOTA	DFOTA	DFOTA	DFOTA	DFOTA
OS Drivers	Linux/Windows/Android	Linux/Windows/Android	Linux/Windows/Android	Linux/Windows/Android
GNSS	Optional	Optional	Optional	Optional
MMS	NA	NA	NA	NA
CSD	NA	NA	NA	NA
TTS	●	●	●	●
SMS	●	●	●	●
Analog Audio	NA	NA	NA	NA
Digital Audio	●	●	●	●
Voice Code	●	●	●	●
Audio Play/Record	●	●	●	●
Protocols	TCP/UDP(S)/HTTP(S)/FTP(S)/IPv4/IPv6/SSL/TLS/MQTT/PING/NTP/FFS/NITZ/PPP/ECM/RNDIS/GobiNet/QMI_WWAN	TCP/UDP(S)/HTTP(S)/FTP(S)/IPv4/IPv6/SSL/TLS/MQTT/PING/NTP/FFS/NITZ/PPP/ECM/RNDIS/GobiNet/QMI_WWAN	TCP/UDP(S)/HTTP(S)/FTP(S)/IPv4/IPv6/SSL/TLS/MQTT/PING/NTP/FFS/NITZ/PPP/ECM/RNDIS/GobiNet/QMI_WWAN	TCP/UDP(S)/HTTP(S)/FTP(S)/IPv4/IPv6/SSL/TLS/MQTT/PING/NTP/FFS/NITZ/PPP/ECM/RNDIS/GobiNet/QMI_WWAN
Interfaces				
SIM	x 1, 1.8V/3.0V	x 1, 1.8V/3.0V	x 1, 1.8V/3.0V	x 1, 1.8V/3.0V
USB	x 1, USB 2.0	x 1, USB 2.0	x 1, USB 2.0	x 1, USB 2.0
PCle	NA	NA	NA	NA
UART	x 2	x 2	x 2	x 2
SPI	●	●	●	●
ADC	x 2	NA	x 2	NA
GPIO	●	NA	●	NA
SDIO	●	NA	●	NA
PCM	●	●	●	●
SGMII	●	NA	●	NA
Certification				
Regulation	RoHS/FCC/ANATEL	RoHS/FCC/ANATEL	RoHS/JATE/TELEC	RoHS/JATE/TELEC
Operator	NA	NA	DOCOMO/Softbank/KDDI	DOCOMO/Softbank/KDDI
Industry	HF	HF	HF	HF





* =planning /under development

Fibocom LTE Module Series

Product Name	L716-EU	L716-EU MiniPCle
Air Interface	LTE Cat 4	
Region	EMEA/APAC	
Picture		
Basic Features		
Package	LCC+LGA	MiniPCle
Dimension (mm)	32.0 x 29.0 x 2.4	51.0 x 30.0 x 3.7
LTE FDD	B1/3/5/7/8/20/28	B1/3/5/7/8/20/28
LTE TDD	B38/40/41	B38/40/41
WCDMA	B1/5/8	B1/5/8
TD-SCDMA	NA	NA
EVDO	NA	NA
CDMA2000 1X	NA	NA
GSM/GPRS/EDGE	850/900/1800MHz	850/900/1800MHz
Power Supply	3.3V ~ 4.4V (Typical 3.8V)	3.3V ~ 4.4V (Typical 3.8V)
Operating Temp.	-30°C ~ +75°C	-30°C ~ +75°C
Extended Temp.	-40°C ~ +85°C	-40°C ~ +85°C
Data Transmission		
LTE FDD (Mbps)	150(DL)/50(UL)	150(DL)/50(UL)
LTE TDD (Mbps)	130 (DL)/30.5 (UL)	130 (DL)/30.5 (UL)
DC-HSPA+(Mbps)	42(DL)/ 5.76(UL)	42(DL)/ 5.76(UL)
HSPA/HSPA+(Mbps)	NA	NA
WCDMA(Kbps)	384(DL)/384(UL)	384(DL)/384(UL)
TD-SCDMA (Mbps)	NA	NA
EVDO(Mbps)	NA	NA
CDMA2000 1X(Kbps)	NA	NA
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)
Functions		
eSIM	NA	NA
Remote SIM	NA	NA
eCALL	NA	NA
OpenCPU	Optional	Optional
MUX	●	●
Jamming Detection	NA	NA
USSD	●	●
STK	NA	NA
LBS	NA	NA
FOTA	DFOTA	DFOTA
OS Drivers	Linux/Windows/Android	Linux/Windows/Android
GNSS	NA	NA
MMS	NA	NA
CSD	NA	NA
TTS	Optional	Optional
SMS	●	●
Analog Audio	NA	NA
Digital Audio	Optional	Optional
Voice Code	Optional	Optional
Audio Play/Record	Optional	Optional
Protocols	TCP/UDP(S)/HTTP(S)/FTP(S)/IPv4/IPv6/SSL/TLS/MQTT/PING/NTP/FFS/NITZ/PPP/ECM/RNDIS	TCP/UDP(S)/HTTP(S)/FTP(S)/IPv4/IPv6/SSL/TLS/MQTT/PING/NTP/FFS/NITZ/PPP/ECM/RNDIS
Interfaces		
SIM	x 1, 1.8V/3.0V	x 1, 1.8V/3.0V
USB	x 1, USB2.0	x 1, USB2.0
PCle	NA	NA
UART	x 2	x 2
SPI	●	●
ADC	●	NA
GPIO	●	NA
SDIO	NA	NA
PCM	●	●
SGMII	RMII	NA
Certification		
Regulation	RoHS/Reach/CE/UKCA	RoHS/Reach/CE/UKCA
Operator	NA	NA
Industry	NA	NA





* =planning /under development

Fibocom LTE Module Series

Product Name	L610-EU	L610-EU MiniPCle	L610-LA	L610-LA MiniPCle
Air Interface	LTE Cat 1			
Region	Europe		Latin America	
Picture				
Basic Features				
Package	LCC+LGA	MiniPCle	LCC+LGA	MiniPCle
Dimension (mm)	28.0 x 31.0 x 2.35	50.8 x 29.85 x 3.4	28.0 x 31.0 x 2.35	50.8 x 29.85 x 3.4
LTE FDD	B1/3/7/8/20/28*	1/3/7/8/20/28*	B1/2/3/4/5/7/8/28/66	B1/2/3/4/5/7/8/28/66
LTE TDD	NA	NA	NA	NA
WCDMA	NA	NA	NA	NA
TD-SCDMA	NA	NA	NA	NA
EVDO	NA	NA	NA	NA
CDMA2000 1X	NA	NA	NA	NA
GSM/GPRS/EDGE	900/1800MHz	900/1800MHz	850/900/1800/1900MHZ	850/900/1800/1900MHZ
Power Supply	3.4V ~ 4.3V (Typical 3.8V)	3.4V ~ 4.3V (Typical 3.8V)	3.4V ~ 4.3V (Typical 3.8V)	3.4V ~ 4.3V (Typical 3.8V)
Operating Temp.	-30°C ~ +75°C	-30°C ~ +75°C	-30°C ~ +75°C	-30°C ~ +75°C
Data Transmission				
LTE FDD (Mbps)	10.3(DL)/5.1(UL)	10.3(DL)/5.1(UL)	10.3(DL)/5.1(UL)	10.3(DL)/5.1(UL)
LTE TDD (Mbps)	NA	NA	NA	NA
DC-HSPA+(Mbps)	NA	NA	NA	NA
HSPA/HSPA+(Mbps)	NA	NA	NA	NA
UMTS(Kbps)	NA	NA	NA	NA
TD-SCDMA (Mbps)	NA	NA	NA	NA
EVDO(Mbps)	NA	NA	NA	NA
CDMA2000 1X(Kbps)	NA	NA	NA	NA
EDGE(Kbps)	NA	NA	NA	NA
GPRS(Kbps)	85.6(DL)/85.6(UL)	85.6(DL)/85.6(UL)	85.6(DL)/85.6(UL)	85.6(DL)/85.6(UL)
Functions				
WiFi scan	Optional	Optional	Optional	Optional
BlueTooth	Optional	Optional	Optional	Optional
SIM	●	●	●	●
eSIM	●	●	●	●
eCALL	NA	NA	NA	NA
OpenCPU	●	NA	●	NA
MUX	●	●	●	●
Dual SIM	NA	NA	NA	NA
Jamming Detection	●	●	●	NA
USSD	NA	NA	NA	NA
STK	●	NA	●	NA
LBS	●	●	●	●
FOTA	DFOTA	DFOTA	DFOTA	DFOTA
OS Drivers	Linux/Windows/Android	Linux/Windows/Android	Linux/Windows/Android	Linux/Windows/Android
GNSS	NA	NA	NA	NA
MMS	NA	NA	NA	NA
CSD	NA	NA	NA	NA
TTS	Optional	Optional	Optional	Optional
SMS	●	●	●	●
Audio	●	●	●	●
Voice Code	HR/FR/EFR/AMR/Call display/ call forwarding/call holding/ call waiting and multi party call	HR/FR/EFR/AMR/Call display/ call forwarding/call holding/ call waiting and multi party call	HR/FR/EFR/AMR/Call display/ call forwarding/call holding/ call waiting and multi party call	HR/FR/EFR/AMR/Call display/ call forwarding/call holding/ call waiting and multi party call
Audio Play/Record	●	●	●	●
Protocols	TCP/UDP(S)/HTTP(S)/FTP(S)/ IPV4/IPV6/SSL/MQTT/NTP	TCP/UDP(S)/HTTP(S)/FTP(S)/ IPV4/IPV6/SSL/MQTT/NTP	TCP/UDP(S)/HTTP(S)/FTP(S)/ IPV4/IPV6/SSL/MQTT/NTP	TCP/UDP(S)/HTTP(S)/FTP(S)/ IPV4/IPV6/SSL/MQTT/NTP
Interfaces				
SIM	x 1, 1.8V/3.0V	x 1, 1.8V/3.0V	x 1, 1.8V/3.0V	x 1, 1.8V/3.0V
USB	x 1, USB2.0	x 1, USB2.0	x 1, USB2.0	x 1, USB2.0
PCie	NA	●	NA	●
UART	x3 (Standard Edition) x4 (Open Edition)	NA	x3 (Standard Edition) x4 (Open Edition)	NA
SPI	●	●	●	●
ADC	X3	NA	X3	NA
GPIO	●	NA	●	NA
Certification				
Regulation	RoHS/CE/NCC	RoHS/CE/NCC	RoHS/FCC/Anatel	RoHS/FCC/Anatel
Operator	TEF/DT/VDF	TEF/DT/VDF	NA	NA
Industry	GCF	GCF	HF	HF


* =planning /under development

Fibocom LTE Module Series

Product Name	MC610-LA	MC610-EU	MC116-NA	MC116-EUL
Air Interface	LTE Cat 1			
Region	Latin America	Europe	North America	Europe/Latin America
Picture				
Basic Features				
Package	LCC+LGA	LCC+LGA	LCC+LGA	LCC+LGA
Dimension (mm)	24.2 x 26.0 x 2.1	24.2 x 26.0 x 2.1	32.0 x 29.0 x 2.4	32.0 x 29.0 x 2.4
LTE FDD	B1/2/3/4/5/7/8/28/66	B1/3/7/8/20/28	B2/4/5/12/13/17/66	B1/2/3/4/7/8/20/28
LTE TDD	NA	NA	NA	NA
WCDMA	NA	NA	NA	B1/2/5/8
TD-SCDMA	NA	NA	NA	NA
EVDO	NA	NA	NA	NA
CDMA2000 1X	NA	NA	NA	NA
GSM/GPRS/EDGE	850/900/1800/1900MHZ	900/1800MHz	NA	850/900/1800/1900MHz
Power Supply	3.4V ~ 4.3V (Typical 3.8V)	3.4V ~ 4.3V (Typical 3.8V)	3.3V ~ 4.3V (Typical 3.8V)	3.3V ~ 4.3V (Typical 3.8V)
Operating Temp.	-30°C ~ +75°C	-30°C ~ +75°C	-30°C ~ +75°C	-30°C ~ +75°C
Data Transmission				
LTE FDD (Mbps)	10.3(DL)/5.1(UL)	10.3(DL)/5.1(UL)	10(DL)/5(UL)	10(DL)/5(UL)
LTE TDD (Mbps)	9.1(DL)/3.1 (UL)	9.1(DL)/3.1 (UL)	NA	NA
DC-HSPA+(Mbps)	NA	NA	NA	DC-HSDPA+: 42(DL)
HSPA/HSPA+(Mbps)	NA	NA	NA	5.76(UL)
UMTS(Kbps)	NA	NA	NA	384(DL)/384(UL)
TD-SCDMA (Mbps)	NA	NA	NA	NA
EVDO(Mbps)	NA	NA	NA	NA
CDMA2000 1X(Kbps)	NA	NA	NA	NA
EDGE(Kbps)	NA	NA	NA	NA
GPRS(Kbps)	85.6(DL)/85.6(UL)	85.6(DL)/85.6(UL)	85.6 (DL)/85.6 (UL)	107(DL)/85.6(UL)
Functions				
WiFi scan	Optional	NA	NA	NA
BlueTooth	Optional	NA	NA	NA
SIM	●	●	●	●
eSIM	●	●	NA	NA
eCALL	NA	NA	NA	NA
OpenCPU	●	●	NA	NA
MUX	●	●	●	●
Dual SIM	NA	NA	NA	NA
Jamming Detection	●	●	NA	NA
USSD	NA	NA	●	●
STK	●	●	NA	NA
LBS	●	●	●	●
FOTA	DFOTA	DFOTA	DFOTA	DFOTA
OS Drivers	Linux/Windows/Android	Linux/Windows/Android	Linux/Windows/Android	Linux/Windows/Android
GNSS	●	NA	●	●
MMS	NA	NA	NA	NA
CSD	NA	NA	NA	NA
TTS	Optional	Optional	NA	NA
SMS	●	●	●	●
Audio	●	●	NA	NA
Voice Code	HR/FR/EFR/AMR/Call display/ call forwarding/call holding/ call waiting and multi party call	HR/FR/EFR/AMR/Call display/ call forwarding/call holding/ call waiting and multi party call	NA	NA
Audio Play/Record	●	●	NA	NA
Protocols	TCP/UDP(S)/HTTP(S)/FTP(S)/IPV4/ IPV6/SSL/MQTT/NTP/NITZ/PPP	TCP/UDP(S)/HTTP(S)/FTP(S)/IPV4/ IPV6/SSL/MQTT/NTP/NITZ/PPP	TCP/UDP(S)/HTTP(S)/FTP(S)/IPV4/ IPV6/SSL/MQTT/LWM2M	TCP/UDP(S)/HTTP(S)/FTP(S)/ IPV4/IPV6/SSL/MQTT/LWM2M
Interfaces				
SIM	x 1, 1.8V/3.0V	x 1, 1.8V/3.0V	x 1, 1.8V/3.0V	x 1, 1.8V/3.0V
USB	x 1, USB2.0	x 1, USB2.0	x 1, USB2.0	x 1, USB2.0
PCie	NA	NA	NA	NA
UART	X3	X3	X2	X2
SPI	●	●	●	●
ADC	X4	X4	X2	X2
GPIO	●	●	●	●
Certification				
Regulation	RoHS/Anatel/FCC*	CE*/RoHS*	RoHS/FCC/IC	RoHS/Reach/CE/Anatel
Operator	NA	NA	AT&T/VZW*	NA
Industry	NA	NA	GCF/PTCRB	GCF



* =planning /under development

Fibocom WCDMA/HSPA+ Module Series

Product Name	H330S
Air Interface	WCDMA/HSPA+
Region	Europe/North America/Brazil/Japan/Australia
Picture	
Basic Features	
Package	LGA
Dimension (mm)	33.8 x 27.8 x 2.45
LTE FDD	NA
LTE TDD	NA
WCDMA	B1/2/5/8
TD-SCDMA	NA
EVDO	NA
CDMA2000 1X	NA
GSM/GPRS/EDGE	850/900/1800/1900MHz
Power Supply	3.3V ~ 4.2V(Typical 3.8V)
Operating Temp.	-40°C ~ +85°C
Data Transmission	
LTE FDD (Mbps)	NA
LTE TDD (Mbps)	NA
DC-HSPA+(Mbps)	NA
HSPA/HSPA+(Mbps)	21 or 7.2(DL)/5.76(UL)
UMTS(Kbps)	NA
TD-SCDMA (Mbps)	NA
EVDO(Mbps)	NA
CDMA2000 1X(Kbps)	NA
EDGE(Kbps)	296(DL)/236.8(UL)
GPRS(Kbps)	107(DL)/85.6(UL)
Functions	
Wi-Fi&BlueTooth	NA
SIM	●
eSIM	NA
eCALL	NA
OpenCPU	NA
MUX	●
Dual SIM	NA
Jamming Detection	NA
USSD	●
STK	●
LBS	NA
FOTA	●
OS Drivers	Android/Linux/WinCE
GNSS	NA
MMS	NA
CSD	●
TTS	NA
SMS	●
Audio	NA
Voice Code	HR/FR/EFR/AMR
Audio Play/Record	NA
Protocols	TCP/UDP/SSL/FTP/NTP/HTTP/PPP
Interfaces	
SIM	x 1, 1.8V/3.0V
USB	USB 2.0
PCIe	NA
UART	x 2
SPI	NA
ADC	●
GPIO	●
Certification	
Regulation	CE-RED/FCC/PTCRB/RoHS/Anatel/JRF/RCM/CCC
Operator	NA
Industry	GCF



* =planning /under development

Fibocom GSM/GPRS Module Series

Product Name	G510-Q50	G510-GL
Air Interface	GSM/GPRS	
Region	Global	
Picture		
Basic Features		
Package	LCC	LCC+LGA
Dimension (mm)	20.2 x 22.2 x 2.5	20.2 x 22.2 x 2.4
LTE FDD	NA	NA
LTE TDD	NA	NA
WCDMA	NA	NA
TD-SCDMA	NA	NA
EVDO	NA	NA
CDMA2000 1X	NA	NA
GSM/GPRS/EDGE	850/900/1800/1900MHz	850/900/1800/1900 MHz
Power Supply	3.3V ~ 4.5V(Typical 3.8V)	3.3V ~ 4.5V(Typical 3.8V)
Operating Temp.	-40°C ~ +85°C	-40°C ~ +85°C
Data Transmission		
LTE FDD (Mbps)	NA	NA
LTE TDD (Mbps)	NA	NA
DC-HSPA+(Mbps)	NA	NA
HSPA/HSPA+(Mbps)	NA	NA
UMTS(Kbps)	NA	NA
TD-SCDMA (Mbps)	NA	NA
EVDO(Mbps)	NA	NA
CDMA2000 1X(Kbps)	NA	NA
EDGE(Kbps)	NA	NA
GPRS(Kbps)	85.6(DL)/85.6(UL)	85.6(DL)/85.6(UL)
Functions		
Wi-Fi&BlueTooth	NA	NA
SIM	●	●
eSIM	●	●
eCALL	NA	NA
OpenCPU	●	●*
MUX	●	●
Dual SIM	NA	NA
Jamming Detection	●	●
USSD	●	●
STK	NA	NA
LBS	●	●
FOTA	DFOTA	DFOTA
OS Drivers	Linux/Windows	Linux/Windows
GNSS	NA	●
MMS	NA	NA
CSD	NA	NA
TTS	●*	●*
SMS	●	●
Audio	●	●
Voice Code	HR/FR/EFR/AMR	MO/MT ext mode/PDU mode/ cell broadcast
Audio Play/Record	NA	NA
Protocols	TCP/UDP/NTP/NITZ/SSL/TLS/PPP/ MQTT/FFS/FTP(S)/HTTP(S)/IPV6*	TCP/UDP/NTP/SSL/PPP/MQTT/FTP/HTTP/OneNET/Alibaba Cloud/LBS
Interfaces		
SIM	x 1, 1.8V/3.0V	1.8V/3.0V
USB	NA	NA
PCIe	NA	NA
UART	x 3	x 2
SPI	NA	NA
ADC	NA	●
GPIO	●	●
Certification		
Regulation	CE/RoHS/SRRC/NAL/CCC/Anatel/Reach	CCC/CE/RoHS/SRRC/ANATEL/NAL/GCF/Reach
Operator	NA	NA
Industry	HF/ GCF	HF



* =planning /under development

Fibocom GSM/GPRS Module Series

Product Name	G500-Q50	G500-GL
Air Interface	GSM/GPRS	
Region	China/Brazil	Global
Picture		
Basic Features		
Package	LCC+LGA	LCC+LGA
Dimension (mm)	18.7 x 16.0 x 2.4	18.7 x 16.0 x 2.25
LTE FDD	NA	NA
LTE TDD	NA	NA
WCDMA	NA	NA
TD-SCDMA	NA	NA
EVDO	NA	NA
CDMA2000 1X	NA	NA
GSM/GPRS/EDGE	850/900/1800/1900MHz	850/900/1800/1900MHz
Power Supply	3.3V ~ 4.5V(Typical 3.8V)	3.3V ~ 4.5V(Typical 3.8V)
Operating Temp.	-40°C ~ +85°C	-40°C ~ +85°C
Data Transmission		
LTE FDD (Mbps)	NA	NA
LTE TDD (Mbps)	NA	NA
DC-HSPA+(Mbps)	NA	NA
HSPA/HSPA+(Mbps)	NA	NA
UMTS(Kbps)	NA	NA
TD-SCDMA (Mbps)	NA	NA
EVDO(Mbps)	NA	NA
CDMA2000 1X(Kbps)	NA	NA
EDGE(Kbps)	NA	NA
GPRS(Kbps)	85.6(DL)/85.6(UL)	85.6(DL)/85.6(UL)
Functions		
Wi-Fi&BlueTooth	NA	NA
SIM	●	●
eSIM	●	●
eCALL	NA	NA
OpenCPU	●	●
MUX	●	●
Dual SIM	NA	NA
Jamming Detection	●	●
USSD	●	●
STK	NA	NA
LBS	●	●
FOTA	DFOTA	DFOTA
OS Drivers	Linux/Windows	Linux/Windows
GNSS	NA	●
MMS	NA	NA
CSD	NA	NA
TTS	●*	●*
SMS	●	●
Audio	●	●
Voice Code	HR/FR/EFR/AMR	HR/FR/EFR/AMR
Audio Play/Record	NA	NA
Protocols	TCP/UDP/NTP/NITZ /HTTP(S)/MQTT/FFS/FTP(S)/SSL/TLS/PPP/IPv6*	TCP/UDP/NTP/NITZ /HTTP(S)/MQTT/FFS/FTP(S)/SSL/TLS/PPP/IPv6*
Interfaces		
SIM	x 1, 1.8V/3.0V	x 1, 1.8V/3.0V
USB	NA	NA
PCIe	NA	NA
UART	x 3	x 4
SPI	NA	NA
ADC	x 2	●
GPIO	●	●
Certification		
Regulation	CE-RED/RoHS/ SRRC/NAL/CCC/ Anatel	CE-RED/RoHS/ SRRC/NAL/CCC
Operator	NA	NA
Industry	NA	NA

* =planning /under development

Fibocom LPWA Module Series

Product Name	MA510-GL	N510-GL
Air Interface	LTE Cat M	
Region	Global	
Picture		
Basic Features		
Package	LCC+LGA	LCC+LGA
Dimension (mm)	22.2 x 20.2 x 2.1	22.2 x 20.2 x 2.1
LTE FDD	Cat M1: B1/2/3/4/5/8/12/13/18/19/20/25/26/27/28/66/85 Cat NB2: B1/2/3/4/5/8/12/13/18/19/20/25/26/28/66/71/85	Cat NB2: B1/2/3/4/5/8/12/13/17/18/19/20/25/26/28/66/71/85
LTE TDD	NA	NA
WCDMA	NA	NA
TD-SCDMA	NA	NA
EVDO	NA	NA
CDMA2000 1X	NA	NA
GSM/GPRS/EDGE	850/900/1800/1900MHz	850/900/1800/1900MHz
Power Supply	MA510-GL-00: 3.3V ~ 4.5V(Typical 3.8V); MA510-GL-01: 2.65V ~ 4.5V	3.3V ~ 5.0V (Typical 3.8V)
Operating Temp.	-40°C ~ +85°C	-40°C ~ +85°C
Data Transmission		
LTE FDD(Kbps)	Cat.M1 Rel.14: 375(DL)/1119(UL) ; Cat.NB1 Rel.13: 63.4 (DL)/95.1(UL); Cat.NB2 Rel.14: 126.8(DL)/158.5(UL);	Cat-NB1 R13: Single-tone:15.6(UL); Multi-tone :26.15(DL)/62.5(UL); Cat-NB2 R14: Single-tone :18.1(UL); Multi-tone :126.8(DL)/158.5(UL)
LTE TDD (Mbps)	NA	NA
DC-HSPA+(Mbps)	NA	NA
HSPA/HSPA+(Mbps)	NA	NA
UMTS(Kbps)	NA	NA
TD-SCDMA (Mbps)	NA	NA
EVDO(Mbps)	NA	NA
CDMA2000 1X(Kbps)	NA	NA
EDGE(Kbps)	296(DL)/236.8(UL)	NA
GPRS(Kbps)	107(DL)/ 85.6(UL)	NA
Functions		
Wi-Fi	NA	NA
BlueTooth	NA	NA
SIM	●	●
eSIM	NA	NA
eCALL	NA	NA
OpenCPU	NA	●
MUX	●	●
Dual SIM	NA	NA
Jamming Detection	●	NA
USSD	NA	NA
STK	NA	NA
LBS	●	●*
FOTA	DFOTA	DFOTA
OS Drivers	Linux/Windows/Android	Linux/Windows
GNSS	●	NA
MMS	NA	NA
CSD	NA	NA
TTS	NA	NA
SMS	●	●
Audio	●	NA
Voice Code	HR/FR/EFR/AMR	NA
Audio Play/Record	NA	NA
Protocols	TCP/UDP(S)/HTTP(S)/MQTT/FFS/FTP(S)/IPV6/SSL/TLS/PING/NTP/NITZ/LwM2M/CoAP/Cell ID	TCP/UDP/HTTP(S)/LwM2M/MQTT/SSL/TLS/IPV4/IPV6/NTP/NITZ/Cell ID
Interfaces		
SIM	x 1, 1.8V	x 1, 1.8V/3.0V
USB	USB 2.0	NA
PCIe	NA	NA
UART	x 3	x 2
SPI	●	●
ADC	●	●
GPIO	●	●
Certification		
Regulation	RoHS/RCM/NCC/IC/Reach/Anatel/CE/TELEC/JATE	CE-RED/RoHS/FCC/NCC
Operator	Sprint(T-Mobile Company)/AT&T/Verizon/SoftBank*/Docomo*/KDDI/DT/Vodafone/Telefonica/Telstra*	DT/Verizon*/Vodafone*/TMO
Industry	HF/GCF/PTCRB	HF/PTCRB/GCF

* =planning /under development

Fibocom Smart Module Series

Product Name	SC126-EAU	SC126-NA	SC126-JP*	S126-W*
Air Interface	Smart(LTE Cat 4)			
Region	Europe/Asia/Australia/Brazil	North America	Japan	Global
Picture				
Basic Features				
Package	146 LCC+ 116 LGA			
Processor	Qualcomm's® QCM2290, ARM® Cortex-A53 Quad-core 64-bit CPU up to 2.0GHz			
GPU	Adreno 702			
Memory(Default)	2GB LPDDR4X RAM; 16GB eMMC Flash			
Dimensions (mm)	40.5 x 40.5 x 2.8			
Frequency	LTE-FDD: B1/3/5/7/8/20/28 LTE-TDD: B38/40/41 WCDMA: B1/2/3/5/8 GSM: 850/900/1800/1900MHz	LTE-FDD: B2/4/5/12/13/ 17/25/26/66 LTE-TDD: B41 WCDMA: B1/2/4/5/8 GSM: 850/900/1900MHz	LTE-FDD:B1/3/6/8/9/ 18/19/21/26/28 LTE-TDD:B41 WCDMA:B1/6/8/9/19	NA
WIFI	2.4G+5G, 802.11a/b/g/n/ac			
BT	BT5.0 (BR/EDR+BLE)			
GNSS	GPS/GLONASS/Beidou			
OS	Android S			
Power Supply	DC 3.5V~4.2V			
Weight	About 10.4g			
Operating Temp.	-25°C ~ +75°C			
Storage Temp.	-40°C ~ +85°C			
Data Transmission				
LTE FDD (Mbps)	Max 150(DL)/Max 50(UL)			NA
LTE TDD (Mbps)	Max 130(DL)/Max 30(UL)			NA
UMTS/HSPA/HSPA+ (Mbps)	HSUPA Max 11(UL) HSPA+ Max 42(DL)			NA
TD-SCDMA (Mbps)	Max 4.2(DL)/ 2.2 (UL)			NA
CDMA EVDO (Mbps)	Max 3.1(DL)/Max 1.8(UL)			NA
EDGE/GPRS(Kbps)	EDGE:Max 296(DL)/ 236.8(UL) GPRS:Max 107(DL)/ 85.6(UL)			NA
WIFI (Mbps)	up to 433			up to 433
Video Processing				
Video Encoding	1080p30 8-bit HEVC (H.265)			
Video Decoding	1080p30 8-bit HEVC (H.265), VP9			
Interfaces				
Hardware Interface	UART/SPI(Mbps)	3 x UART Up to 4; SPI Up to 50		
	I2C(Kbps)	Up to 400 for CTP/Camera/Sensor		
	USB	1 x USB 2.0/3.1 support OTG(external 5V power supply)		
	SDIO	Support SD3.0 protocol; support 4 bit SD card		
	CAM	2 x MIPI_CSI(4/4 or 4/2/1), ISPx2(13MP+13MP or 25MP)		
	GPIO	21 GPIOs		
	Display	1 x 4-lane MIPI_DSI up to 1680x720@60fps		
Audio Interface	Speaker	1 x Mono, differential 1W CLASS-D		
	Receiver	1 x Mono, AB		
	Mic	2 x analog microphones		
	Handset	1x Stereo, single-ended output		
SIM card interface	USIM 2 x SIM card, support dual-card, dual-standby			
Key	Keys Power on/off/Volume up/Volume down/Reset			
Advantages	1. Android S with a long life cycle 2. Global version planning 3. Support FHD display			
Applications	Mobile POS terminal, Intelligent Robot, Smart Home, Smart City and Smart Industries			
Certification				
Regulation	CE*/RoHS*/REACH*/HF*	FCC*/RoHS*/IC*	MIC*/RoHS*	CCC*
Operator	NA	AT&T*/T-Mobile*/Verizon*	Docomo*	NA
Industry	GCF*	PTCRB*	NA	NA



* =planning /under development

Fibocom Smart Module Series

Product Name	SC826-W	SS826-W*
Air Interface	Smart(Wi-Fi)	
Region	Global	
Picture		
Basic Features		
Package	154 LCC+ 149 LGA	
Processor	Qualcomm's® MSM8953, ARM® Cortex™-A53 8-core 64-bit CPU up to 2GHz, 4-core 1MB L2 cache, 4-core 512KB L2	Qualcomm's® SDM450, ARM® Cortex™-A53 8-core 64-bit CPU up to 1.8GHz, one quad with 512 KB L2 cache, one quad with 512 KB L2 cache
GPU	Adreno506	
Memory(Default)	2GB LPDDR3 RAM; 16GB eMMC Flash	
Dimensions (mm)	55.0 x 35.0 x 2.85	
Frequency	NA	
WIFI	2.4G+5G, 802.11a/b/g/n/ac	
BT	BT2.1+EDR/3.0/4.2 LE	
GNSS	NA	
OS	Android N/P	
Power Supply	DC 3.5V ~ 4.2V	
Weight	About 12.1g	
Operating Temp.	-30°C ~ +75°C	
Storage Temp.	-40°C ~ +85°C	
Data Transmission		
LTE FDD (Mbps)	NA	
LTE TDD (Mbps)	NA	
UMTS/HSPA/HSPA+ (Mbps)	NA	
TD-SCDMA (Mbps)	NA	
CDMA EVDO (Mbps)	NA	
EDGE/GPRS(Kbps)	NA	
WIFI (Mbps)	up to 433	
Video Processing		
Video Encoding	4K@30fps (H.264/H.265/VP8)	
Video Decoding	4K@30fps (H.264/H.265/VP8/VP9)	
Interfaces		
Hardware Interface	UART/SPI(Mbps)	3 x UART Up to 4, 1 x SPI, 2 x I2S
	I2C(Kbps)	Up to 400 For CTP/Camera/Sensor
	USB	1 x USB 3.0/2.0 high speed, Support USB OTG
	SDIO	1 x SD3.0
	CAM	ISP x 2 MIPI_CSI x 3 up to 2.1Gbps 4 lane MIPI_CSI x 3 (up to 24MP)
	GPIO	29 GPIOs
	Display	2 x 4-lane MIPI_DSI, up to (1920x1200)@60fps
Audio Interface	Speaker	1 x Mono, differential 1W CLASS-D
	Receiver	1 x Mono, AB
	Mic	2 x analog microphones
	Handset	1 x Stereo, single-ended output
SIM card interface	USIM 2 x SIM card, support dual-card dual-standby(Default Single)	
Key	Keys Power on/off /Volume up /Volume down /Reset	
Advantages	1. Octa-core A53 processor with up to 2.0GHz CPU Clock Speed 2. Slender package to support more applications 3. Long-term lifecycle supply guarantee	
Applications	Smart Cash Register, Security Monitoring, High-end Police or Law Enforcement Equipment, Vehicle-mounted Equipment, Smart Handheld Equipment, Logistics Cabinet, Advertising Machine	
Certification		
Regulation	NA	
Operator	NA	
Industry	NA	


* =planning /under development

Fibocom Smart Module Series

Product Name	SC665-W	SC820-W	
Air Interface	Smart(Wi-Fi)	Smart(Wi-Fi)	
Region	Global	Global	
Picture			
Basic Features			
Package	156 LCC+ 92 LGA	156 LCC+ 76 LGA	
Processor	UNISOC's® UJS7862S, Dual-core ARM® Cortex™-A75+Six-core ARM Cortex™-A55,2.0GHz	Qualcomm's® MSM8953, ARM® Cortex™-A53 8-core 64-bit CPU up to 2GHz, 4-core 1MB L2 cache, 4-core 512KB L2	
GPU	G52-3EE-2core @850MHz	Adreno 506	
Memory(Default)	2GB LPDDR4X RAM; 32GB eMMC Flash	2GB LPDDR3 RAM; 16GB eMMC Flash	
Dimensions (mm)	43.5 x 45.0 x 2.85	43.5 x 45.0 x 2.85	
Frequency	NA	NA	
WIFI	2.4G+5G, 802.11 a/b/g/n/ac	2.4G+5G, 802.11a/b/g/n/ac	
BT	BT 5.0	BT2.1+EDR/3.0/4.2 LE	
GNSS	GPS/Beidou/GLONASS/Galileo	NA	
OS	Android Q	Android N	
Power Supply	DC 3.5 ~ 4.2V	DC 3.5V ~ 4.35V	
Weight	About 12.3g	About 12.3g	
Operating Temp.	-20°C ~ +75°C	-30°C ~ +75°C	
Storage Temp.	-40°C ~ +85°C	-40°C ~ +85°C	
Data Transmission			
LTE FDD (Mbps)	NA	NA	
LTE TDD (Mbps)	NA	NA	
UMTS/HSPA/HSPA+ (Mbps)	NA	NA	
TD-SCDMA (Mbps)	NA	NA	
CDMA EVDO (Mbps)	NA	NA	
EDGE/GPRS(Kbps)	NA	NA	
WIFI (Mbps)	up to 433	up to 433	
Video Processing			
Video Encoding	1080p@60fps (H.263/H.264/H.265/MPEG4)	4K@30fps (HEVC/H.264/VP8/VP9/MPEG4/VC1)	
Video Decoding	1080p@60fps(H.263/H.264/H.265/MPEG4/VP8/VP9)	4K@30fps (HEVC/H.264/VP8/MPEG4/ SW VP9)	
Interfaces			
Hardware Interface	UART/SPI(Mbps)	4 x UART Up to 4.6	3 x UART UP to 4, 1 x SPI
	I2C(Kbps)	5 x I2C Up to 3.4Mbps	Up to 400 For CTP/Camera/Sensor
	USB	1 x USB2.0 support OTG	1 x USB3.0/2.0 high speed; Support USB OTG(external 5V power supply)
	SDIO	1 x SDIO 3.0	1 x SD3.0
	CAM	MIPI_CSI0 4-lane, 2.5Gbps/lane, up to 32MP MIPI_CSI1 2-lane, 1.6Gbps/lane, up to 8MP MIPI_CSI2 4-lane or 2-lane+2-lane, 2.5Gbps/lane, up to 32MP	MIPI_CSI x 2 up to 2.1Gbps; MIPI_CSI 4 lane x 1 (up to 24MP) MIPI_CSI 2 lane x 1 (up to 8MP)
	GPIO	19 GPIOs	25 GPIOs
	Display	1 x 4-lane MIPI_DSI; up to (2400x1080)@60fps	2 x 4-lane MIPI_DSI; up to (1920x1200)@60fps
Audio Interface	Speaker	1.5W on 8Ω load in Class-D mode	1 x Mono, differential 1W CLASS-D
	Receiver	1 x Mono, AB	1 x Mono, AB
	Mic	2 x analog microphones	2 x analog microphones
	Handset	Stereo CLASS AB	1 x Stereo, single-ended output
SIM card interface	USIM	2 x SIM card, support dual-card, dual-standby	2 x SIM card, support dual-SIM dual-standby(Default Single)
Key	Keys	Power on/off /Volume up /Volume down /Reset	Power on/off /Volume up /Volume down /Reset
Advantages	1、 Android Q 2、 Support 2*1080P LCD with External FPGA 3、 High computation capability, high-end Platform	1、 Octa-core A53 processor with up to 2.0 GHz CPU Clock Speed 2、 Android Nougat 3、 Long-term lifecycle supply guarantee	
Applications	Smart Cash Register, Security Monitoring, High-end Police or Law Enforcement Equipment, Vehicle-mounted Equipment	Automotive aftermarket, High-end Police or Law Enforcement Equipment	
Certification			
Regulation	RoHS/CCC/SRRC	RoHS*/CCC*	
Operator	NA	NA	
Industry	NA	NA	


* =planning /under development

Fibocom Smart Module Series

Product Name	SS808-EAU	SS808-NA	SS808-JP*	SS808-W
Air Interface	Smart(LTE Cat 4)			Smart(Wi-Fi)
Region	Europe/Asia/Australia/Brazil	North America	Japan	Global
Picture				
Basic Features				
Package	148 LCC+ 84 LGA			
Processor	Qualcomm' s® SDM450, ARM® Cortex™-A53 8-core 64-bit CPU up to 1.8GHz, one quad with 512 KB L2 cache, one quad with 512 KB L2 cache			
GPU	Adreno506			
Memory(Default)	2GB/4GB LPDDR3 RAM; 16GB/64GB eMMC Flash			
Dimensions (mm)	41.0 x 41.0 x 2.8			
Frequency	LTE-FDD: B1/3/5/7/8/20/28 LTE-TDD: B38/40/41 WCDMA: B1/2/5/8 GSM: 850/900/1800/1900MHz	LTE-FDD: B2/4/5/7/12/13/ 25/26/66 LTE-TDD: B41 WCDMA: B2/4/5	LTE-FDD: B1/3/6/8/9/ 18/19/21/26/28 LTE-TDD: B41 WCDMA: B1/6/8/9/19	NA
WIFI	2.4G+5G, 802.11a/b/g/n/ac			
BT	BT4.2 (BR/EDR+BLE)			
GNSS	GPS/GLONASS/Beidou			
OS	Android P			
Power Supply	3.5V ~ 4.2V			
Weight	About10.3g			
Operating Temp.	-30°C ~ +75°C			
Storage Temp.	-40°C ~ +85°C			
Data Transmission				
LTE FDD (Mbps)	Max 150(DL)/Max 50(UL)			NA
LTE TDD (Mbps)	Max 130(DL)/Max 30(UL)			NA
UMTS/HSPA/HSPA+ (Mbps)	HSUPA Max 5.76(UL) HSPA+ Max 42(DL)			NA
TD-SCDMA (Mbps)	Max 4.2(DL)/2.2 (UL)			NA
CDMA EVDO (Mbps)	Max 3.1(DL)/1.8(UL)			NA
EDGE/GPRS(Kbps)	EDGE:Max 296(DL)/236.8(UL) GPRS:Max 107(DL)/85.6(UL)			NA
WIFI (Mbps)	up to 433			up to 433
Video Processing				
Video Encoding	1080p@60fps (H.264/H.265/VP8)			
Video Decoding	1080p@60fps(H.264/H.265/VP8/VP9)			
Interfaces				
Hardware Interface	UART/SPI(Mbps)	3 x UART Up to 4; SPI Up to 50		
	I2C(Kbps)	Up to 400; For CTP/Camera/Sensor		
	USB	1 x USB2.0 high-speed interface,support USB OTG(Require 5V power supply)		
	SDIO	Support SD3.0 protocol; Support 4 bit SD card		
	CAM	MIPI_CSI 4 lane x 2(Up to 2.1G) MIPI_CSI 4 lane x 1(Up to 21Mp)		
	GPIO	21 GPIOs		
	Display	2 x 4-lane MIPI_DSI; up to (1920x1200)@60fps		
Audio Interface	Speaker	1 x Mono, differential 1W CLASS-D		
	Receiver	1 x Mono, AB		
	Mic	2 x analog microphones		
	Handset	1x Stereo, single-ended output		
SIM card interface	USIM	2 x SIM card, support dual-card, dual-standby		
Key	Keys	Power on/off/Volume up/Volume down/Reset		
Advantages	1、 Octa-core A53 processor with up to 1.8GHz CPU Clock Speed 2、 Support dual-LCD and multipath camera			
Applications	Smart Cash Register, Security Monitoring, Mobile POS terminal, Mobile computing, ECR, IVI, New Retailing			
Certification				
Regulation	CE/RCM/NCC*	RoHS/FCC	JATE*/TELEC*	CE*
Operator	Telstra*/VDF	AT&T	DCM*/KDDI*/Softbank*	NA
Industry	GCF	PTCRB	NA	NA

* =planning /under development

Fibocom Smart Module Series

Product Name	SQ808-EAU	SQ808-NA	SQ808-JP	SQ808-W
Air Interface	Smart(LTE Cat 4)			
Region	Europe/Asia/Australia/Brazil	North America	Japan	Global
Picture				
Basic Features				
Package	148 LCC+84 LGA			
Processor	Qualcomm's® QCM2150, ARM® Cortex-A53 Quad-core 64-bit CPU up to 1.3GHz			
GPU	Adreno 308			
Memory(Default)	1GB/2GB LPDDR3 RAM; 8GB/16GB eMMC Flash			
Dimensions (mm)	41.0 x 41.0 x 2.8			
Frequency	LTE-FDD: B1/3/5/7/8/20/28 LTE-TDD: B38/40/41 WCDMA: B1/2/5/8 GSM: 850/900/1800/1900MHz	LTE-FDD: B2/4/5/7/12/13/17/25/26/66 LTE-TDD: B41 WCDMA: B1/2/4/5/8 GSM: 850/900/1900MHz	LTE-FDD: B1/3/6/8/9/18/19/21/26/28 LTE-TDD: B41 WCDMA: B1/6/8/9/19	NA
WIFI	2.4G+5G, 802.11a/b/g/n/ac			
BT	BT4.2 (BR/EDR+BLE)			
GNSS	GPS/GLONASS/Beidou			
OS	Android Q			
Power Supply	DC 3.5V ~ 4.2V			
Weight	About10.4g			
Operating Temp.	-30°C ~ +75°C			
Storage Temp.	-40°C ~ +85°C			
Data Transmission				
LTE FDD (Mbps)	Max 150(DL)/Max 50(UL)		NA	
LTE TDD (Mbps)	Max 130(DL)/Max 30(UL)		NA	
UMTS/HSPA/HSPA+ (Mbps)	HSUPA Max 5.76(UL) HSPA+ Max 42(DL)		NA	
TD-SCDMA (Mbps)	Max 4.2(DL)/2.2 (UL)		NA	
CDMA EVDO (Mbps)	Max 3.1(DL)/Max 1.8(UL)		NA	
EDGE/GPRS(Kbps)	EDGE: Max 296(DL)/Max236.8(UL) GPRS: Max 107(DL)/Max85.6(UL)		NA	
WIFI (Mbps)	up to 433			
Video Processing				
Video Encoding	1080p@30fps (H.264)			
Video Decoding	1080p@30fps (H.264, HEVC, VP8)			
Interfaces				
Hardware Interface	UART/SPI(Mbps)	3 x UART Up to 4; SPI Up to 50		
	I2C(Kbps)	Up to 400; For CTP/Camera/Sensor		
	USB	1 x USB2.0 high-speed interface,support USB OTG(external 5V power supply)		
	SDIO	Support SD3.0 protocol; Support 4 bit SD card		
	CAM	MIPI_CSI 4 lane x 2, Up to 2.1G; MIPI_CSI0 4 lane x 1 connect 1 main camera, up to 13MP MIPI_CSI1 4 lane x 1 connect 1/2 vice camera		
	GPIO	21 GPIOs		
	Display	1 x 4-lane MIPI_DSI; up to (1920x1080)@30fps		
Audio Interface	Speaker	1 x Mono, differential 1W CLASS-D		
	Receiver	1 x Mono, AB		
	Mic	2 x analog microphones		
	Handset	1 x Stereo, single-ended output		
SIM card interface	USIM			
Key	Keys			
Advantages	1. Android Q 2. Global Cert. 3. Support FHD display			
Applications	Mobile POS terminal, Intelligent Robot, Smart Home, Smart City and Smart Industries			
Certification				
Regulation	CE/RoHS/REACH/POPs/NCC/KC/Anatel	FCC/RoHS/IC/ISED/NOM	MIC/RoHS/TELEC/JATE	CE*
Operator	Telstra	AT&T/Bell/T-Mobile/Verizon*/Telus/Rogers/Telcel	Softbank*/KDDI*/NTT*/Docomo	NA
Industry	GCF	PTCRB	NA	NA


* =planning /under development

Fibocom Smart Module Series

Product Name	SU808-EAU	
Air Interface	Smart(LTE Cat 4)	
Region	Europe/Asia/Australia/Brazil	
Picture		
Basic Features		
Package	148 LCC+ 84 LGA	
Processor	UNISOC's® SL8541E, ARM® Cortex™-A53 Quad-core up to 1.4GHz	
GPU	Mali T820	
Memory(Default)	1GB/2GB LPDDR3 RAM; 8GB/16GB eMMC Flash	
Dimensions (mm)	41.0 x 41.0 x 2.8	
Frequency	LTE-FDD: B1/3/5/7/8/20/28 LTE-TDD: B38/40/41 (2535 ~ 2655MHz) WCDMA: B1/2/5/8 GSM: 850/900/1800/1900MHz	
WIFI	2.4G, 802.11 b/g/n	
BT	BT4.2 (BR/EDR+BLE)	
GNSS	GPS/Beidou	
OS	Android Q	
Power Supply	DC 3.5 ~ 4.2V	
Weight	About9.5g	
Operating Temp.	-20°C ~ +75°C	
Storage Temp.	-40°C ~ +85°C	
Data Transmission		
LTE FDD (Mbps)	Max 150(DL)/Max 50(UL)	
LTE TDD (Mbps)	Max 130(DL)/Max 30(UL)	
UMTS/HSPA/HSPA+ (Mbps)	HSUPA Max 11(UL) HSDPA Max 21(DL)	
TD-SCDMA (Mbps)	NA	
CDMA EVDO (Mbps)	NA	
EDGE/GPRS(Kbps)	EDGE: Max 296(DL)/Max 236.8 (UL) GPRS: Max 107(DL)/Max 85.6(UL)	
WIFI (Mbps)	up to 72.2	
Video Processing		
Video Encoding	1080p@30fps(H.264, MPEG4, H.263)	
Video Decoding	1080p@30fps(H.264, MPEG4, H.263, VP8)	
Interfaces		
Hardware Interface	UART/SPI(Mbps)	3 x UART Up to 3
	I2C(Kbps)	4 x I2C Up to 3.4Mbps
	USB	1 x USB2.0 support OTG
	SDIO	1 x SD3.0
	CAM	MIPI_CSI1 4 lane x 1(up to 13Mp) MIPI_CSI0 4 lane x 1(up to 8Mp)
	GPIO	28 GPIOs
	Display	1 x 4-lane MIPI_DSI; up to (1440x720)@60fps
Audio Interface	Speaker	1 x Mono, differential 1W CLASS-D
	Receiver	1 x Mono, AB
	Mic	2 x analog microphones
	Handset	Stereo CLASS AB
SIM card interface	USIM	2 x SIM card, support dual-card, dual-standby
Key	Keys	Power on/off /Volume up /Volume down /Reset
Advantages	1. Android Q 2. Cost-effective smart module	
Applications	Smart Cash Register, Security Monitoring, Automotive aftermarket, Body Worn Camera	
Certification		
Regulation	RoHS/CE/Anatel	
Operator	Claro*/Vivo*	
Industry	GCF	


* =planning /under development

Fibocom Smart Module Series

Product Name		SC806-AE	SC806-AB	SC806-AM
Air Interface		Smart(LTE Cat 4)		
Region		Europe/Asia	Australia/Brazil	North America
Picture				
				
Basic Features				
Package	146 LCC+ 64 LGA			
Processor	Qualcomm's® MSM8909, Quad-ARM® Cortex™-A7 application processors up to 1.1GHz			
GPU	Adreno 304			
Memory(Default)	1GB/2GB LPDDR3 RAM; 8GB/16GB eMMC Flash			
Dimensions (mm)	40.5 x 40.5 x 2.8			
Frequency	LTE-FDD: B1/3/5/7/8/20 LTE-TDD: B38/40/41 WCDMA: B1/2/3/5/8 CDMA2000 1X/EVDO: BC0/EVDO Rev.A GSM: 850/900/1800/1900MHz	LTE-FDD: B1/3/5/7/8/28 LTE-TDD: B40 WCDMA: B1/2/5/8 GSM: 850/900/1800/1900MHz	LTE-FDD: B2/4/5/12/13/17 WCDMA: B2/4/5	
WIFI	2.4G+5G, 802.11a/b/g/n			
BT	BT 4.1/4.2(Nougat)BLE			
GNSS	GPS/GLONASS/Beidou			
OS	Android L/N			
Power Supply	DC 3.5V ~ 4.2V			
Weight	About 9.2g			
Operating Temp.	-30°C ~ +75°C			
Storage Temp.	-40°C ~ +85°C			
Data Transmission				
LTE FDD (Mbps)	Max 150(DL)/50(UL)			
LTE TDD (Mbps)	Max 130(DL)/30(UL)			
UMTS/HSPA/HSPA+ (Mbps)	HSUPA Max 5.76(UL) HSPA+ Max 42(DL)			
TD-SCDMA (Mbps)	Max 4.2(DL)/2.2(UL)			
CDMA EVDO (Mbps)	Max 3.1 (DL)/1.8(UL)			
EDGE/GPRS(Kbps)	EDGE: Max 296(DL)/236.8(UL) GPRS: Max 107(DL)/85.6(UL)			
WIFI (Mbps)	up to 150			
Video Processing				
Video Encoding	720p@30fps(H.264 BP/MP)			
Video Decoding	1080p@30fps (HEVC H.265 MP 8 bit)			
Interfaces				
Hardware Interface	UART/SPI(Mbps)	2 x UART Up to 4		
	I2C(Kbps)	3 x I2C Up to 3.4		
	USB	1 x USB2.0 up to 480, Support OTG(Require 5V power supply)		
	SDIO	1 x SD3.0		
	CAM	MIPI_CSI 2 lane x 1(up to 8Mp) MIPI_CSI 1 lane x 1(up to 2Mp)		
	GPIO	32 GPIOs		
	Display	1 x 4-lane MIPI_DSI 720P		
Audio Interface	Speaker	1 x Mono, differential 800mW CLASS-D		
	Receiver	1 x Mono, AB		
	Mic	3 x analog microphones		
	Handset	1 x Stereo, single-ended output		
SIM card interface	USIM			
Key	Keys			
Advantages	1. Quad-core A7 processor with 1.1GHz CPU Clock Speed 2. Support global application with multiple band configuration 3. Support Android L&N version 4. Long-term lifecycle supply guarantee			
Applications	Wireless Intelligent Payment, Intelligent Robot, Smart Home, Smart City and Smart Industries			
Certification				
Regulation	RoHS/CE	RoHS/CE/RCM*	RoHS/FCC	
Operator	NA	NA	AT&T*/Verizon*	
Industry	GCF	NA	PTCRB*	


* =planning /under development

Fibocom Smart Module Series

Product Name		SC806-LA	SC806-W
Air Interface		Smart(LTE Cat 4)	
Region		Latin America	Global
Picture			
			
Basic Features			
Package	146 LCC+ 64 LGA		
Processor	Qualcomm's® MSM8909, Quad-ARM® Cortex™-A7 application processors up to 1.1GHz		
GPU	Adreno 304		
Memory(Default)	1GB/2GB LPDDR3 RAM; 8GB/16GB eMMC Flash		
Dimensions (mm)	40.5 x 40.5 x 2.8		
Frequency	LTE-FDD:B1/2/4/5/7/8/28(full) LTE-TDD:B40 WCDMA:B1/2/5/8 GSM:850/900/1800/1900 MHz	NA	
WIFI	2.4G+5G, 802.11a/b/g/n		
BT	BT 4.1/4.2(Nougat)BLE		
GNSS	GPS/GLONASS/Beidou		
OS	Android L/N		
Power Supply	DC 3.5V ~ 4.2V		
Weight	About 9.2g		
Operating Temp.	-30°C ~ +75°C		
Storage Temp.	-40°C ~ +85°C		
Data Transmission			
LTE FDD (Mbps)	Max 150(DL)/50(UL)		
LTE TDD (Mbps)	Max 130(DL)/30(UL)		
UMTS/HSPA/HSPA+ (Mbps)	HSUPA Max 5.76(UL) HSPA+ Max 42(DL)		
TD-SCDMA (Mbps)	Max 4.2(DL)/2.2(UL)		
CDMA EVDO (Mbps)	Max 3.1 (DL)/1.8(UL)		
EDGE/GPRS(Kbps)	EDGE: Max 296(DL)/236.8(UL) GPRS: Max 107(DL)/85.6(UL)		
WIFI (Mbps)	up to 150		
Video Processing			
Video Encoding	720p@30fps(H.264 BP/MP)		
Video Decoding	1080p@30fps (HEVC H.265 MP 8 bit)		
Interfaces			
Hardware Interface	UART/SPI(Mbps)	2 x UART Up to 4	
	I2C(Kbps)	3 x I2C Up to 3.4	
	USB	1 x USB2.0 up to 480, Support OTG(Require 5V power supply)	
	SDIO	1 x SD3.0	
	CAM	MIPI_CSI 2 lane x 1(up to 8Mp) MIPI_CSI 1 lane x 1(up to 2Mp)	
	GPIO	32 GPIOs	
	Display	1 x 4-lane MIPI_DSI 720P	
Audio Interface	Speaker	1 x Mono, differential 800mW CLASS-D	
	Receiver	1 x Mono, AB	
	Mic	3 x analog microphones	
	Handset	1 x Stereo, single-ended output	
SIM card interface	USIM		
Key	Keys		
Advantages	1. Quad-core A7 processor with 1.1GHz CPU Clock Speed 2. Support global application with multiple band configuration 3. Support Android L&N version 4. Long-term lifecycle supply guarantee		
Applications	Wireless Intelligent Payment, Intelligent Robot, Smart Home, Smart City and Smart Industries		
Certification			
Regulation	FCC*	RoHS*/CCC*	
Operator	NA	NA	
Industry	NA	NA	


* =planning /under development

Fibocom Smart Module Series

Product Name	SC138-EAU	SC138-NA	SC138-JP	SC138-W
Air Interface	Smart(LTE Cat 4)			
Region	Europe/Asia/Australia/Brazil	North America	Japan	Global
Picture				
Basic Features				
Package	148 LCC+ 128 LGA			
Processor	Qualcomm's® QCM6125, Quad-core ARM® Cortex™-A73,2.0GHz+Quad-core ARM Cortex™-A53,1.8GHz			
GPU	Adreno 610			
Memory(Default)	2GB/4GB LPDDR4X RAM; 32GB/64GB eMMC&UFS			
Dimensions (mm)	41.0 x 41.0 x 2.8			
Frequency	LTE-FDD B1/3/5/7/8/20/28 LTE-TDD B38/40/41 WCDMA:B1/2/5/8 GSM:850/900/1800/1900MHz	LTE-FDD:B2/4/5/7/12/ 13/17/25/26/48/66/71 LTE-TDD: B41 WCDMA: B2/4/5	LTE-FDD:B1/3/6/8/9/ 18/19/21/26/28 LTE-TDD:B41 WCDMA:B1/6/8/9/19	NA
WIFI	2.4G+5G, 802.11 a/b/g/n/ac			
BT	BT 5.0			
GNSS	GPS/Beidou/GLONASS			
OS	Android Q/R/S			
Power Supply	DC 3.5 ~ 4.2V			
Weight	About9.6g			
Operating Temp.	-30°C ~ +75°C			
Storage Temp.	-40°C ~ +85°C			
Data Transmission				
LTE FDD (Mbps)	Max 150(DL)/ 75(UL)		NA	
LTE TDD (Mbps)	Max 130(DL)/ 45(UL)		NA	
UMTS/HSPA/HSPA+ (Mbps)	HSUPA: Max 11(UL) HSPA+: Max 42(DL)		NA	
TD-SCDMA (Mbps)	NA		NA	
CDMA EVDO (Mbps)	NA		NA	
EDGE/GPRS(Kbps)	EDGE: Max 296(DL)/236.8 (UL) GPRS: Max 107(DL)/85.6(UL)		NA	
WIFI (Mbps)	up to 433			
Video Processing				
Video Encoding	4K@30fps (H.264, HEVC, VP9)			
Video Decoding	4K@30fps (H.264, HEVC, VP8)			
Interfaces				
Hardware Interface	UART/SPI(Mbps)	4 x UART Up to 4		
	I2C(Kbps)	I2C Up to 3.4Mbps		
	USB	1 x USB2.0/3.1, Support OTG,Support DP over Type-C		
	SDIO	1 x SDIO		
	CAM	Three 4-lane CSIs (4/4/4 or 4/4/2/1) D-PHY 1.2 at 2.5 Gbps per lane or C-PHY 1.0 at 10 Gbps (3.42 Gbps/trio)		
	GPIO	33 GPIOs		
	Display	1 x 4-lane MIPI_DSI; up to (2520x1080)@60fps		
Audio Interface	Speaker	1.5W on 8Ω load in Class-D mode		
	Receiver	1 x Mono, AB		
	Mic	2 x analog microphones		
	Handset	Stereo CLASS AB		
SIM card interface	USIM			
Key	Keys			
Advantages	1. Android Q/R/S 2. High computation capability and support 4K video coding 3. Dual LCDs for independent display DSI (2520x1080@60fps+1920x1080@60fps over DP)			
Applications	Smart Cash Register,Security Monitoring, High-end Police or Law Enforcement Equipment, Telematics, Hand-held sets			
Certification				
Regulation	RoHS/CE/HF/REACH	FCC/IC/RoHS	RoHS*/JATE*/TELEC*	RoHS/CE/HF
Operator	NA	AT&T*	NA	NA
Industry	GCF	NA	NA	NA



* =planning /under development

Fibocom Smart Module Series

Product Name	SC626-EAU*	
Air Interface	Smart(LTE Cat 4)	
Region	Europe/Asia/Australia/Brazil	
Picture		
Basic Features		
Package	146 LCC+ 120 LGA	
Processor	UNISOC's® UIS8581E, 8XA55 up to 1.6GHz	
GPU	IMG 8322 @550MHz	
Memory(Default)	2GB LPDDR4X RAM; 32GB eMMC Flash	
Dimensions (mm)	40.5 x 40.5 x 2.85	
Frequency	LTE-FDD: B1/3/5/7/8/20/28 LTE-TDD: B38/40/41 WCDMA: B1/2/5/8 GSM:850/900/1800/1900MHz	
WIFI	2.4G+5G, 802.11 a/b/g/n/ac	
BT	BT 5.1	
GNSS	GPS/Beidou/GLONASS	
OS	Android Q	
Power Supply	DC 3.5 ~ 4.2V	
Weight	About 12.3g	
Operating Temp.	-20°C ~ +75°C	
Storage Temp.	-40°C ~ +85°C	
Data Transmission		
LTE FDD (Mbps)	Max 150(DL)/ 50(UL)	
LTE TDD (Mbps)	Max 130(DL)/ 30(UL)	
UMTS/HSPA/HSPA+ (Mbps)	HSUPA Max 11(UL) HSPA+ Max 42(DL)	
TD-SCDMA (Mbps)	NA	
CDMA EVDO (Mbps)	NA	
EDGE/GPRS(Kbps)	EDGE: Max 296(DL)/236.8(UL) GPRS: Max 107(DL)/85.6(UL)	
WIFI (Mbps)	up to 433	
Video Processing		
Video Encoding	1080p@30fps, H.264/H.265	
Video Decoding	1080p@30fps, H.264	
Interfaces		
Hardware Interface	UART/SPI(Mbps)	3 x UART Up to 3
	I2C(Kbps)	3 x I2C Up to 3.4Mbps
	USB	MAIN USB: USB2.0, up to 480Mbps, support device/host mode, no USB HUB SUB USB: USB2.0, up to 100Mbps, only support host mode, support USB HUB
	SDIO	1 x SDIO
	CAM	MIPI_CSI1 4lane x 2(up to 16Mp) MIPI_CSI0 4lane x 1(up to 5Mp)
	GPIO	37GPIOs
	Display	1 x 4-lane MIPI_DSI; up to (2160x1080)@60fps
Audio Interface	Speaker	1W on 8Ω load in Class-D mode
	Receiver	1 x Mono, AB
	Mic	2 x analog microphones
	Handset	Stereo CLASS AB
SIM card interface	USIM	
Key	Keys	
Advantages	1. Android Q 2. Support 2x1080P LCD with External FPGA 3. Cost-effective option	
Applications	Smart Cash Register, Security Monitoring, High-end Police or Law Enforcement Equipment, Vehicle-mounted Equipment	
Certification		
Regulation	RoHS*/CE*/HF*/REACH*	
Operator	NA	
Industry	NA	



* =planning /under development

Fibocom Automotive-Grade Module Series

Product Name	AN958-AE	AN958-EAU
Air Interface	Automotive (5G NR Sub6)	Automotive (5G NR Sub6)
Region	China	Europe / Australia
Picture		
Basic Features		
Package	LGA	LGA
Dimension (mm)	48.0 x 48.0 x 2.7	48.0 x 48.0 x 2.7
Sub-6	n1/3/5/8/28/41/78/79	n1/3/5/7/8/20/28/38/40/41/77/78
LTE FDD	B1/3/5/7/8	B1/3/5/7/8/20/28/32
LTE TDD	B34/38/39/40/41	B38/40/41/42
V2X	NA	NA
WCDMA	B1/8	B1/3/5/8
GSM	900/1800	900/1800
Operation mode	NSA&SA	NSA&SA
Antenna	4 +1(GPS)	4 +1(GPS)
Operating Voltage	3.4V ~ 4.2V(Typical 3.8V)	3.4V ~ 4.2V(Typical 3.8V)
Operating Temp.	-40°C ~ +85°C	-40°C ~ +85°C
Key Functions		
NR SA(Mbps)	2.12Gbps(DL)/900(UL)	2.12Gbps(DL)/900(UL)
LTE(Mbps)	LTE FDD: 1.6Gbps(DL)/200(UL); LTE TDD: 1.4Gbps(DL)/120(UL)	LTE FDD: 1.6Gbps(DL)/200(UL); LTE TDD: 1.4Gbps(DL)/120(UL)
WCDMA(Mbps)	42(DL)/5.76(UL)	42(DL)/5.76(UL)
GSM(Kbps)	296(DL)/236.8(UL)	296(DL)/236.8(UL)
Functions		
Voice	VoLTE/5G VoNR	• SMS over IP(IMS)
SMS	SMS over IP(IMS)	•
Audio	•	•
DFOTA	•	•
OS Drivers	Linux/Android/Windows	Linux/Android/Windows
GNSS	GPS/GLONASS/Galileo/BeiDou/QZSS	GPS/GLONASS/Galileo/BeiDou/QZSS
OpenLinux	•	•
A/B Dual system	•	•
C-V2X	NA	NA
QDR3.0	Optional	Optional
ecall	•	•
eSIM	Optional	Optional
Gigabit Ethernet	Optional	Optional
RTK	•	•
Temperature Management	•	•
Security		
Trustzone	•	•
Secure Boot	•	•
SE-Linux	•	•
Drive		
RNDIS/ECM/QMI_WWAN/USB Serial Driver	•	•
Interfaces		
USB	USB3.1/3.0 & USB2.0	USB3.1/3.0 & USB2.0
PCIe	PCIe3.0	PCIe3.0
UART	•	•
SPI	•	•
ADC	•	•
GPIO	•	•
I2C	•	•
SDIO	•	•
(U)SIM	•	•
I2S	•	•
PCM	•	•
RMGII	•	•
Certification		
Regulation	CCC/SRRC/NAL	CE*/GCF*
Operator	NA	Vodafone*


* =planning /under development

Fibocom Automotive-Grade Module Series

Product Name	AN958-NA	AN958-ROW
Air Interface	Automotive (5G NR Sub6)	Automotive (5G NR Sub6)
Region	America	Japan
产品图片		
Basic Features		
Package	LGA	LGA
Dimension (mm)	48.0 x 48.0 x 2.7	48.0 x 48.0 x 2.7
Sub-6	n2/5/7/12/14/25/28/41/48/66/71/77/78	n1/28/77/79
LTE FDD	B2/4/5/7/12/14/17/25/26/28/29/66/71	B1/3/8/19/21/28
LTE TDD	B41/42	B42
V2X	B47	NA
WCDMA	B2/4/5	B1/19
GSM	850/900/1900	NA
Operation mode	NSA&SA	NSA&SA
Antenna	4 +1(GPS)	4 +1(GPS)
Operating Voltage	3.4V ~ 4.2V(Typical 3.8V)	3.4V ~ 4.2V(Typical 3.8V)
Operating Temp.	-40°C ~ +85°C	-40°C ~ +85°C
Key Functions		
NR SA(Mbps)	2.12Gbps(DL)/900(UL)	2.12Gbps(DL)/900(UL)
LTE(Mbps)	LTE FDD: 1.6Gbps(DL)/200(UL); LTE TDD: 1.4Gbps(DL)/120(UL)	LTE FDD: 1.6Gbps(DL)/200(UL); LTE TDD: 1.4Gbps(DL)/120(UL)
WCDMA(Mbps)	42(DL)/5.76(UL)	42(DL)/5.76(UL)
GSM(Kbps)	296(DL)/236.8(UL)	NA
Functions		
Voice	VoLTE/5G VONR	• SMS over IP(IMS)
SMS	SMS over IP(IMS)	•
Audio	•	•
DFOTA	•	•
OS Drivers	Linux/Android/Windows	Linux/Android/Windows
GNSS	GPS/GLONASS/Galileo/BeiDou/QZSS	GPS/GLONASS/Galileo/BeiDou/QZSS
OpenLinux	•	•
A/B Dual system	•	•
C-V2X	NA	NA
QDR3.0	Optional	Optional
OS Drivers	•	•
GNSS	Optional	Optional
OpenLinux	Optional	Optional
RTK	•	•
Temperature Management	•	•
Security		
Trustzone	•	•
Secure Boot	•	•
SE-Linux	•	•
Drive		
RNDIS/ECM/QMI_WWAN/USB Serial Driver	•	•
Interfaces		
USB	USB3.1/3.0 & USB2.0	USB3.1/3.0 & USB2.0
PCIe	PCIe3.0	PCIe3.0
UART	•	•
SPI	•	•
ADC	•	•
GPIO	•	•
I2C	•	•
SDIO	•	•
(U)SIM	•	•
I2S	•	•
PCM	•	•
RMGII	•	•
Certification		
Regulation	IC*/FCC*/PTCRB*	TELEC*/JATE*
Operator	NA	NA



* =planning /under development

Fibocom Automotive-Grade Module Series

Product Name	AN958T-AE	AN758-CN
Air Interface	Automotive (5G+V2X)	Automotive (5G)
Region	China	
Picture		
Basic Features		
Package	LGA	LGA
Dimension (mm)	48.0 x 48.0 x 2.7	48.0 x 48.0 x 2.7
Sub-6	n1/3/5/8/28/41/78/79	n1/3/5/8/28/41/78/79
LTE FDD	B1/3/5/7/8	B1/3/5/7/8
LTE TDD	B34/38/39/40/41	B34/38/39/40/41
V2X	B47	NA
WCDMA	B1/8	B1/8
GSM	900/1800	900/1800
Operation mode	NSA&SA	NSA&SA
Antenna	6+1(GPS)	4+1(GPS)
Operating Voltage	3.4V ~ 4.2V(Typical 3.8V)	3.4V ~ 4.2V(Typical 3.8V)
Operating Temp.	-40°C ~ +85°C	-40°C ~ +85°C
Key Functions		
NR SA(Mbps)	2.12Gbps(DL)/900(UL)	4.67Gbps(DL)/2.5Gbps(UL)
LTE(Mbps)	LTE FDD: 1.6Gbps(DL)/200(UL); LTE TDD: 1.4Gbps(DL)/120(UL)	LTE FDD: 1.4Gbps(DL)/211(UL); LTE TDD: 1.4Gbps(DL)/211(UL)
WCDMA(Mbps)	42(DL)/5.76(UL)	42(DL)/5.76(UL)
GSM(Kbps)	296(DL)/236.8(UL)	296(DL)/236.8(UL)
Functions		
Voice	VoLTE/5G VONR	•
SMS	SMS over IP(IMS)	• SMS over IP(IMS)
Audio	•	•
DFOTA	•	•
OS Drivers	Linux/Android/Windows	Linux/Android/Windows
GNSS	GPS/GLONASS/Galileo/BeiDou/QZSS	GPS/GLONASS/Galileo/BeiDou/NavIC
OpenLinux	•	•
A/B Dual system	•	•
C-V2X	•	NA
QDR3.0	Optional	Optional
ecall	•	•
eSIM	Optional	Optional
Gigabit Ethernet	Optional	Optional
RTK	•	•
Temperature Management	•	•
Security		
Trustzone	•	•
Secure Boot	•	•
SE-Linux	•	•
Drive		
RNDIS/ECM/QML_WWAN/USB Serial Driver	•	•
Interfaces		
USB	USB3.1/3.0 & USB2.0	USB3.1/3.0 & USB2.0
PCIe	PCIe3.0	PCIe3.0
UART	•	•
SPI	•	•
ADC	•	•
GPIO	•	•
I2C	•	•
SDIO	•	•
(U)SIM	•	•
I2S	•	•
PCM	•	•
RMGII	•	•
Certification		
Regulation	CCC*/SRRC*/NAL*	CCC*/SRRC*/NAL*
Operator	NA	NA


* =planning /under development

Fibocom Automotive-Grade Module Series

Product Name	AL940-CN	AL640-CN
Air Interface	Automotive(LTE Cat 4)	
Region	China	
Picture		
Basic Features		
Package	LGA	LGA
Dimension (mm)	33.0 x 37.5 x 3.0	33.0 x 37.5 x 3.0
LTE FDD	B1/3/5/8	B1/3/5/8
LTE TDD	B34/38/39/40/41	B34/38/39/40/41
WCDMA	B1/8	B1/8
TD-SCDMA	B34/39	NA
EVDO	BC0	BC0
CDMA2000 1X	BC0	BC0
GSM/GPRS/EDGE	900/1800MHz	900/1800MHz
Power Supply	3.4V ~ 4.2V(Typical 3.8V)	3.4V ~ 4.2V(Typical 3.8V)
Operating Temp.	-40°C ~ +85°C	-40°C ~ +85°C
Key Functions		
LTE FDD (Mbps)	150(DL)/50(UL)	150(DL)/50(UL)
LTE TDD (Mbps)	130(DL)/30(UL)	130(DL)/30(UL)
DC-HSPA+(Mbps)	42(DL)/5.76(UL)	MAX 5.76(UL)
HSPA/HSPA+(Mbps)	21(DL)/5.76(UL)	MAX 5.77(UL)
UMTS(kbps)	384(DL)/384(UL)	384(DL)/384(UL)
TD-SCDMA (Mbps)	4.2(DL)/2.2(UL)	NA
EVDO(Mbps)	3.1(DL)/1.8(UL)	NA
CDMA2000 1X(kbps)	307.2(DL/UL)	NA
EDGE(Kbps)	296(DL)/236.8(UL)	296(DL)/236.8(UL)
GPRS(Kbps)	107(DL)/85.6(UL)	107(DL)/85.6(UL)
Functions		
eSIM	•	•
Remote SIM	NA	NA
eCALL	NA	NA
OpenCPU	OpenLinux	OpenLinux
MUX	NA	NA
Jamming Detection	NA	NA
USSD	•	•
STK	•	•
LBS	•	•
FOTA	•	•
OS Drivers	Linux/Windows/Android	Linux/Windows/Android
GNSS	•	•
MMS	NA	NA
CSD	NA	NA
TTS	NA	NA
SMS	•	•
Analog Audio	•	•
Digital Audio	•	•
Voice Code	•	•
Audio Play/Record	•	•
Protocols	TCP/UDP/DHCP/HTTP(S)/FTP(S)/SMTP/IPV4/IPV6/SSL/TLS/PING	TCP/UDP/DHCP/HTTP(S)/FTP(S)/SMTP/IPV4/IPV6/SSL/TLS/PING
Interfaces		
SIM	x 2, 1.8V/3.0V	x 2, 1.8V/3.0V
USB	x 1, USB 2.0	x 1, USB 2.0
PCM/I2S	x 1	x 1
PCIe	NA	NA
UART	x 3	x 3
SPI	x 2	x 1
I2C	x 2	x 2
ADC	x 3	x 3
GPIO	•	•
SDIO	x 2, WiFi and Emmc	x 2, WiFi and eMMC
SGMII	x 1	x 1
Certification		
Regulation	CCC/SRRC/NAL	CCC/SRRC/NAL
Operator	NA	NA
Industry	NA	NA


* =planning /under development

Fibocom Automotive-Grade Module Series

Product Name	AL656S
Air Interface	Automotive (Smart/LTE Cat 6)
Region	China
Picture	
Basic Features	
Package	LGA
Dimension (mm)	43.0 x 44.0 x 2.85
LTE FDD	B1/3/5/8
LTE TDD	B34/38/39/40/41
WCDMA	B1/8
TD-SCDMA	NA
EVDO	NA
CDMA2000 1X	NA
GSM/GPRS/EDGE	900/1800MHz
Power Supply	3.3V ~ 4.3V(Typical 3.8V)
Operating Temp.	-40°C ~ +85°C
Data Transmission	
LTE FDD (Mbps)	300(DL)/50(UL)
LTE TDD (Mbps)	265(DL)/35(UL)
DC-HSPA+(Mbps)	42(DL)/5.76(UL)
HSPA/HSPA+(Mbps)	21(DL)/5.76(UL)
UMTS(kbps)	5.76(UL)
TD-SCDMA (Mbps)	NA
EVDO(Mbps)	NA
CDMA2000 1X(kbps)	NA
EDGE(Kbps)	296(DL)/236.8(UL)
GPRS(Kbps)	107(DL)/85.6(UL)
Functions	
eSIM	●
Remote SIM	NA
eCALL	NA
OpenCPU	●
MUX	NA
Jamming Detection	NA
USSD	●
STK	●
LBS	●
FOTA	FOTA/DFOTA
OS Drivers	Android 10
GNSS	●
MMS	●
CSD	●
TTS	●
SMS	●
Analog Audio	●
Digital Audio	●
Voice Code	●
Audio Play/Record	●
Protocols	TCP/UDP(S)/DHCP/HTTP(S)/FTP(S)/SMTP/IPV4V6/SSL/TLS/PING
Interfaces	
SIM	x 2, 1.8V/ 3.0V
MIPI CSI	x 3
MIPI DSI	x 1
DP	x 1
USB	x 1, USB2.0
PCM/I2S	●
PCIe	NA
UART	x 3
SPI	●
I2C	●
I2S	x 3
ADC	x 2
GPIO	●
SDIO	●
RGMI	NA
Certification	
Regulation	CCC*/SRRC*/NAL*/RoHS*
Operator	China Mobile*/China Unicom*
Industry	NA


* =planning /under development

Fibocom Automotive-Grade Module Series

Product Name	AP915-GL
Air Interface	Automotive (AP)
Region	Global
Picture	
Basic Features	
Package	LGA
Dimension (mm)	33 x 33.5 x 3.2
Chipset	V2X AP Qualcomm SA2150P
LTE FDD	NA
LTE TDD	NA
WCDMA	NA
TD-SCDMA	NA
EVDO	NA
CDMA2000 1X	NA
GSM/GPRS/EDGE	NA
Power Supply	3.3V ~ 4.3V(Typical 3.8V)
Operating Temp.	-40°C ~ +85°C
Functions	
eSIM	NA
Remote SIM	NA
eCALL	NA
OpenCPU	●
MUX	NA
Jamming Detection	NA
USSD	NA
STK	NA
LBS	NA
FOTA	FOTA/DFOTA
OS Drivers	Linux
GNSS	NA
MMS	NA
CSD	NA
TTS	NA
SMS	NA
Analog Audio	NA
Digital Audio	NA
Voice Code	NA
Audio Play/Record	NA
Protocols	NA
Interfaces	
SIM	NA
MIPI CSI	NA
MIPI DSI	NA
DP	NA
USB	USB2.0 x1; USB3.0 x 1
PCM/I2S	NA
PCIe	x 1
UART	x 2
SPI	x 2
I2C	x 2
I2S	NA
ADC	x 2
GPIO	●
SDIO	x 1
RGMI	x 1
Certification	
Regulation	RoHS*
Operator	NA
Industry	NA


* =planning /under development

Fibocom Automotive-Grade Module Series

Product Name	AL680S-GL
Air Interface	Automotive (Smart/LTE Cat 4)
Region	Europe
Picture	
Basic Features	
Package	LCC+LGA
Dimension (mm)	40 x 40 x 2.85
LTE FDD	B1/2/3/4/5/7/8/9/12/13/17/19/20/21/28
LTE TDD	B38/40/41
WCDMA	B1/2/3/4/5/6/8/19
TD-SCDMA	NA
EVDO	NA
CDMA2000 1X	NA
GSM/GPRS/EDGE	GSM:850/900/1800/1900MHz
Power Supply	3.3V ~ 4.3V(Typical 3.8V)
Operating Temp.	-40°C ~ +85°C
Data Transmission	
LTE FDD (Mbps)	150(DL)/50(UL)
LTE TDD (Mbps)	NA
DC-HSPA+(Mbps)	42(DL)/5.76(UL)
HSPA/HSPA+(Mbps)	21(DL)/5.76(UL)
UMTS(kbps)	5.76(UL)
TD-SCDMA (Mbps)	NA
EVDO(Mbps)	NA
CDMA2000 1X(kbps)	NA
EDGE(Kbps)	296(DL)/236.8(UL)
GPRS(Kbps)	107(DL)/85.6(UL)
Functions	
eSIM	●
Remote SIM	NA
eCALL	NA
OpenCPU	●
MUX	NA
Jamming Detection	NA
USSD	●
STK	●
LBS	●
FOTA	FOTA/DFOTA
OS Drivers	Android 10
GNSS	●
MMS	●
CSD	NA
TTS	●
SMS	●
Analog Audio	●
Digital Audio	●
Voice Code	●
Audio Play/Record	●
Protocols	TCP/UDP(S)/DHCP/HTTP(S)/FTP(S)/SMTP/IPV4V6/SSL/TLS/PING
Interfaces	
SIM	x 2, 1.8V/ 3.0V
MIPI CSI	x 3
MIPI DSI	x 1
DP	x 1
USB	x 1, USB2.0
PCM/I2S	●
PCIe	NA
UART	x 3
SPI	●
I2C	●
I2S	x 3
ADC	x 2
GPIO	●
SDIO	●
RGMI	NA
Certification	
Regulation	CE*/GCF*/RoHS*
Operator	NA
Industry	NA



* =planning /under development

Fibocom Automotive-Grade Module Series

Product Name	AX168
Air Interface	Automotive (V2X)
Region	Global
Picture	
Basic Features	
Package	LGA
Dimension (mm)	40.0 x 42.0 x 4.0
LTE V2X	B46D: 5725MHz-5825MHz; B47: 5850-5925MHz
LTE FDD	NA
LTE TDD	NA
WCDMA	NA
TD-SCDMA	NA
EVDO	NA
CDMA2000 1X	NA
GSM/GPRS/EDGE	NA
Power Supply	4.4V ~ 5.5V(Recommended value: 5V) or 3.0V ~ 3.6V(Recommended value: 3.3V)
Operating Temp.	-40°C ~ +85°C
Data Transmission	
LTE V2X (Mbps)	31(DL)/31(UL)
LTE FDD (Mbps)	NA
LTE TDD (Mbps)	NA
DC-HSPA+(Mbps)	NA
HSPA/HSPA+(Mbps)	NA
UMTS(kbps)	NA
TD-SCDMA (Mbps)	NA
EVDO(Mbps)	NA
CDMA2000 1X(kbps)	NA
EDGE(Kbps)	NA
GPRS(Kbps)	NA
Functions	
eSIM	NA
Remote SIM	NA
eCALL	NA
OpenCPU	●
MUX	NA
Jamming Detection	NA
USSD	NA
STK	NA
LBS	NA
FOTA	FOTA/DFOTA
OS Drivers	Linux/Android/Windows
GNSS	NA
MMS	NA
CSD	NA
TTS	NA
SMS	NA
Analog Audio	NA
Digital Audio	NA
Voice Code	NA
Audio Play/Record	NA
Protocols	V2X PC5/DSRC
Interfaces	
CAN	NA
USB	x 2, USB2.0
PCIe	NA
UART	x 2
I2C	x 2
SPI	x 1
ADC	x 2
GPIO	●
SDIO	x 1
SGMII	x 1
RMI	x 1
JTAG	x 1
Certification	
Regulation	TBD
Operator	NA
Industry	NA

* =planning /under development

Fibocom Automotive-Grade Module Series

Product Name	AW916-GL	W100-GL
Air Interface	Automotive(Wi-Fi 4)	Automotive (Wi-Fi 6)
Region	Global	
Picture		
Basic Features		
Package	LGA	LGA
Dimension (mm)	23.0 x 23.0 x 2.65	16.6 x 13.0 x 2.1
Chipset	Qualcomm QCA6696	Qualcomm QCA1023
WiFi Frequency	2.4/5GHz	2.4/5GHz
WiFi Standard	802.11a/b/g/n/ac/ax	802.11a/b/g/n/ac
BT Protocol	BT5.1	BT4.2
Modulation mode	Max 1024QAM	BPSK/QPSK/CCK/16QAM/64QAM/256QAM
Encryption Mode	WPA3	WEP/TKIP/AES/WPA-PSK/WPA2-PSK
Operation mode	AP/STA	AP/STA
Max access point	32	16
Voltage	VDD_RF: 3.85V VDD_IO: 1.8V VDD_CORE_V(L: 0.95V; M: 1.35V; H: 1.95V)	operating voltage: 3.14 ~ 3.46V, Typical: 3.3V I/O PIN Supply voltage range: 1.71 ~ 1.89V, Typical: 1.8V
Operating Temp.	-40°C ~ +85°C	-40°C ~ +85°C
Antenna	2	1
WiFi Data Rate	802.11a: Max 54Mbps 802.11b: Max 11Mbps 802.11g: Max 54Mbps 802.11n: Max 150Mbps 802.11ac: Max 433Mbps 802.11ax: Max 1.775Gbps	802.11a: Max 54Mbps 802.11b: Max 11Mbps 802.11g: Max 54Mbps 802.11n: Max 150Mbps 802.11ac: Max 433Mbps
BLE transfer rate	2Mbps	1Mbps
Interfaces		
SDIO	NA	●
DBG_TXD	●	●
32KHz_IN	NA	●
PICE	●	NA
AURT	●	NA
PCM	●	NA
Certification		
Regulation	SRRC/CE*/IC*/FCC*	SRRC/CE/RoHS
Operator	NA	NA
Industry	NA	NA

* =planning /under development