

Sierra Wireless® WP Series Embedded Modules

Expect more, do more with the next-gen WP

Sierra Wireless® AirPrime® WP Series provides an integrated device-to-cloud architecture enabling IoT developers to build a Linux-based product on a single module and seamlessly send valuable user and product data to the cloud. Offering an application processor running the open source Legato® platform, GNSS receiver, and cellular modem with an ultra-low power domain, WP modules reduce system complexity and get you to market faster.

SIMPLIFY SYSTEM DEVELOPMENT WITH A DEVICE-TO-CLOUD ARCHITECTURE

- All the key hardware components of your connected product in a compact form factor to save board space and reduce total BOM (bill of materials)
- Integrated Legato platform that maintains your Linux distribution and includes an application framework, development tools, and community support
- Integrated AirVantage® cloud services make it easy to access product and user data into your backend enterprise applications.

FUTURE-PROOF YOUR PRODUCT DESIGNS

- CF3® (common flexible form factor) module design provides worldwide coverage on 2G, 3G, 4G, and LPWA networks, is compatible with HL Series of modules, and capable of supporting new wireless technologies
- The professionally maintained open source Legato platform for IoT enables you to reuse software components and applications in future designs with no vendor lock-in
- AirVantage cloud services with big data storage grows with your deployments and can power future revenue-generating services as your business evolves

KEEP YOUR PRODUCTS DEPLOYED FOR YEARS IN THE FIELD

- New ultra-low power domain can reduce power consumption by 200x opening new use-cases for cellular where 100% connectivity to the network is not required
- Application sandbox within the Legato platform hosts your proprietary software and provides a secure place for 3rd party applications to enable future services for your customers
- Unlimited FOTA (firmware over-the-air) powered by AirVantage maintains optimized connectivity as networks evolve and keeps your data transmission protected as new security threats arise

ULTRA-LOW POWER DOMAIN

Ideal for remote solar or battery-powered applications, the WP Series integrated power management feature can reduce power consumption by 200x compared to previous modules, enabling new use-cases for cellular. For example:

- Devices that only need to transmit data once a day can now run on a single battery for up to 3 years*
- Devices that only need to transmit data once a week can now run on a single battery for 10 years*

*based on sending 100kb of data, powered by a standard consumer-grade battery, operating on a 2G network.



	WP7502	WP7504	WP7504-1	WP8548
Target Region	EMEA	Americas	Americas	Global
4G LTE				
Category	Cat-3	Cat-3	Cat-3	
Frequency Bands	B1, B3, B7, B8, B20	B2, B4, B5, B12, B17, B25, B26	B2, B4, B5, B12, B17, B25, B26	
3G				
Technology supported	HSPA+, UMTS	HSPA+, UMTS	HSPA+, UMTS	HSPA+, UMTS
Frequency Bands	B1, B8	B2, B4, B5	B2, B4, B5	B1, B2, B5, B6, B8, B19
Technology supported		EVDO		
Frequency Bands		BC0, BC1, BC10		
2G				
Technology supported	EDGE, GSM, GPRS	CDMA		EDGE, GSM, GPRS
Frequency Bands	900, 1800	BC0, BC1, BC10		850, 900, 1800, 1900
DATA SPEED				
Peak Download Rate	100 Mbps	100 Mbps	100 Mbps	42 Mbps
Peak Upload Rate	50 Mbps	50 Mbps	50 Mbps	5.76 Mbps
LOCATION SERVICES				
Satellite Systems (Optional)	GPS, Galileo, Glonass	GPS, Galileo, Glonass	GPS, Galileo, Glonass	GPS, Galileo, Glonass
CORES				
Application Core	ARM® Cortex™- A5 (550MHz)	ARM® Cortex™- A5 (550MHz)	ARM® Cortex™- A5 (550MHz)	ARM® Cortex™- A5 (550MHz)
Telecom Core	Dual QDSP6 (600MHz)	Dual QDSP6 (600MHz)	Dual QDSP6 (600MHz)	Dual QDSP6 (600MHz)
EMBEDDED SOFTWARE				
Pre-certified Firmware	✓	✓	✓	✓
APPLICATION FRAMEWORK				
Embedded Platform	Legato® open source	Legato® open source	Legato® open source	Legato® open source
Linux Distribution	Yocto, Long-term supported Linux Kernel (LTSI)	Yocto, Long-term supported Linux Kernel (LTSI)	Yocto, Long-term supported Linux Kernel (LTSI)	Yocto, Long-term supported Linux Kernel (LTSI)
AUDIO CODECS				
Digital audio	✓	✓	✓	✓
PCM/I2S	✓	✓	✓	✓
Codec: HR, FR, EFR, AMR	✓	✓	✓	✓
Echo cancellation & noise reduction	✓	✓	✓	✓
DTMF	✓	✓	✓	✓
USB DRIVERS				
Windows® 7 and 8	✓	✓	✓	✓
Linux Driver	✓	✓	✓	✓
INTERFACES				
UART	2	2	2	2
USB	1	1	1	1
I2C	1	1	1	1
ADC	4	4	4	4
GPIO	20	20	20	20
Tx ON Indicator	1	1	1	1
SIM Interface 1.8V/3V	2	2	2	2
HARDWARE				
CF3™ Form Factor (LGA)	✓	✓	✓	✓
Snap-in socket option	✓	✓	✓	✓
Dimensions	22x23x4.4mm	22x23x4.4mm	22x23x4.4mm	22x23x4.4mm
Antenna: Diversity	✓	✓	✓	
Antenna: MIMO	✓	✓	✓	
TEMPERATURE RANGE				
Industrial Grade	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
APPROVALS				
Regulatory	CE, GCF	PTCRB, FCC, GCF, IC	PTCRB, FCC, GCF, IC	CE, FCC, PTCRB, GCF, IC, JRF/ JPA, NCC
Carrier		AT&T, Sprint, T-Mobile	AT&T, Sprint, T-Mobile	AT&T
CLOUD SERVICES				
Free Unlimited FOTA upgrades	✓	✓	✓	✓
Device Management option	✓	✓	✓	✓
Application Enablement option	✓	✓	✓	✓
Connectivity Management option	✓	✓	✓	✓

	WP7601	WP7601-1	WP7603	WP7603-1
Target Region	Americas	Americas	Americas	Americas
4G LTE				
Category	Cat-4	Cat-1	Cat-4	Cat-1
Frequency Bands	B4, B13	B4, B13	B2, B4, B5, B12	B2, B4, B5, B12
3G				
Technology supported			HSPA+, UMTS	HSPA+, UMTS
Frequency Bands			B2, B4, B5	B2, B4, B5
DATA SPEED				
Peak Download Rate	150 Mbps	10 Mbps	150 Mbps	10 Mbps
Peak Upload Rate	50 Mbps	5 Mbps	50 Mbps	50 Mbps
LOCATION SERVICES				
Satellite Systems (Optional)	GPS, Galileo, Glonass, Beidou	GPS, Galileo, Glonass, Beidou	GPS, Galileo, Glonass, Beidou	GPS, Galileo, Glonass, Beidou
CORES				
Application Core	ARM® Cortex™- A7 (1.3GHz)	ARM® Cortex™- A7 (1.3GHz)	ARM® Cortex™- A7 (1.3GHz)	ARM® Cortex™- A7 (1.3GHz)
Telecom Core	Dual QDSP6 (600MHz)	Dual QDSP6 (600MHz)	Dual QDSP6 (600MHz)	Dual QDSP6 (600MHz)
EMBEDDED SOFTWARE				
Secure Boot	✓	✓	✓	✓
Pre-certified Firmware	✓	✓	✓	✓
APPLICATION FRAMEWORK				
Embedded Platform	Legato® open source	Legato® open source	Legato® open source	Legato® open source
Linux Distribution	Yocto, Long-term supported Linux Kernel (LTSI)	Yocto, Long-term supported Linux Kernel (LTSI)	Yocto, Long-term supported Linux Kernel (LTSI)	Yocto, Long-term supported Linux Kernel (LTSI)
AUDIO CODECS				
Digital audio	✓	✓	✓	✓
PCM/12S	✓	✓	✓	✓
Codec: HR, FR, EFR, AMR	✓	✓	✓	✓
Echo cancellation & noise reduction	✓	✓	✓	✓
DTMF	✓	✓	✓	✓
USB DRIVERS				
Windows® 7 and 8	✓	✓	✓	✓
Linux	✓	✓	✓	✓
INTERFACES				
UART	2	2	2	2
USB	1	1	1	1
12C	1	1	1	1
ADC	4	4	4	4
GPIO	18	18	18	18
Tx ON Indicator	1	1	1	1
SIM Interface 1.8V/3V	1	1	1	1
HARDWARE				
CF3™ Form Factor (LGA)	✓	✓	✓	✓
Snap-in socket option	✓	✓	✓	✓
Dimensions	22x23x2.5mm	22x23x2.5mm	22x23x2.5mm	22x23x2.5mm
Antenna: Diversity	✓	✓	✓	✓
Antenna: MIMO	✓	✓	✓	✓
TEMPERATURE RANGE				
Industrial Grade	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
APPROVALS				
Regulatory	FCC, IC	FCC, IC	FCC, IC	FCC, IC
Carrier	Verizon	Verizon	AT&T, T-Mobile	AT&T, T-Mobile
APPROVALS				
Optional Ready-to-Connect Sierra Wireless embedded SIM	✓	✓	✓	✓
CLOUD SERVICES				
Free Unlimited FOTA upgrades	✓	✓	✓	✓
Device Management option	✓	✓	✓	✓
Application Enablement option	✓	✓	✓	✓
Connectivity Management option	✓	✓	✓	✓

Note: VoLTE supported as a firmware upgrade

Sierra Wireless
WP SERIES EMBEDDED MODULES

	WP7607	WP7607-1	WP7608	WP7608-1	WP7609
Target Region	EMEA	EMEA	India/China	India/China	Australia
4G LTE					
Category	Cat-4	Cat-1	Cat-4	Cat-1	Cat-4
Frequency Bands	B1, B3, B7, B8, B20, B28	B1, B3, B7, B8, B20, B28	B1, B3, B5, B8, B40, B41*	B1, B3, B5, B8, B40, B41*	B1, B3, B5, B7, B8, B28
3G					
Technology supported	HSPA+, UMTS	HSPA+, UMTS	HSPA+, UMTS	HSPA+, UMTS	HSPA+, UMTS
Frequency Bands	B1, B8	B1, B8	B1, B8	B1, B8	B1, B5, B8
2G					
Technology supported	EDGE, GSM, GPRS	EDGE, GSM, GPRS	EDGE, GSM, GPRS	EDGE, GSM, GPRS	
Frequency Bands	900, 1800	900, 1800	900, 1800	900, 1800	
DATA SPEED					
Peak Download Rate	150 Mbps	10 Mbps	150 Mbps	10 Mbps	150 Mbps
Peak Upload Rate	50 Mbps	5 Mbps	50 Mbps	5 Mbps	50 Mbps
LOCATION SERVICES					
Satellite Systems (Optional)	GPS, Galileo, Glonass, Beidou	GPS, Galileo, Glonass, Beidou	GPS, Galileo, Glonass, Beidou	GPS, Galileo, Glonass, Beidou	GPS, Galileo, Glonass, Beidou
CORES	ARM® Cortex™- A7 (1.3GHz)	ARM® Cortex™- A7 (1.3GHz)	ARM® Cortex™- A7 (1.3GHz)	ARM® Cortex™- A7 (1.3GHz)	ARM® Cortex™- A7 (1.3GHz)
Application Core					
Telecom Core	Dual QDSP6 (600MHz)	Dual QDSP6 (600MHz)	Dual QDSP6 (600MHz)	Dual QDSP6 (600MHz)	Dual QDSP6 (600MHz)
EMBEDDED SOFTWARE					
Secure Boot	✓	✓	✓	✓	✓
Pre-certified Firmware	✓	✓	✓	✓	✓
APPLICATION FRAMEWORK					
Embedded Platform	Legato® open source	Legato® open source	Legato® open source	Legato® open source	Legato® open source
Linux Distribution	Yocto, Long-term supported Linux Kernel (LTSI)	Yocto, Long-term supported Linux Kernel (LTSI)	Yocto, Long-term supported Linux Kernel (LTSI)	Yocto, Long-term supported Linux Kernel (LTSI)	Yocto, Long-term supported Linux Kernel (LTSI)
AUDIO CODECS					
Digital audio	✓	✓	✓	✓	✓
PCM/12S	✓	✓	✓	✓	✓
Codec: HR, FR, EFR, AMR	✓	✓	✓	✓	✓
Echo cancellation & noise reduction	✓	✓	✓	✓	✓
DTMF	✓	✓	✓	✓	✓
USB DRIVERS					
Windows® 7 and 8	✓	✓	✓	✓	✓
Linux	✓	✓	✓	✓	✓
INTERFACES					
UART	2	2	2	2	2
USB	1	1	1	1	1
12C	1	1	1	1	1
ADC	4	4	4	4	4
GPIO	18	18	18	18	18
Tx ON Indicator	1	1	1	1	1
SIM Interface 1.8V/3V	1	1	1	1	1
HARDWARE					
CF3™ Form Factor (LGA)	✓	✓	✓	✓	✓
Snap-in socket option	✓	✓	✓	✓	✓
Dimensions	22x23x2.5mm	22x23x2.5mm	22x23x2.5mm	22x23x2.5mm	22x23x2.5mm
Antenna: Diversity	✓	✓	✓	✓	✓
Antenna: MIMO	✓	✓	✓	✓	✓
TEMPERATURE RANGE					
Industrial Grade	-40°C to +85°C	-40°C to +85°C	-40°C / +85°C	-40°C / +85°C	-40°C to +85°C
APPROVALS					
Regulatory	GCF	GCF	CCC, GCF	CCC, GCF	GCF, RCM
Carrier					Telstra, Optus, Vodafone
CONNECTIVITY					
Optional Ready-to-Connect Sierra Wireless embedded SIM	✓	✓	✓	✓	✓
CLOUD SERVICES					
Free Unlimited FOTA upgrades	✓	✓	✓	✓	✓
Device Management option	✓	✓	✓	✓	✓
Application Enablement option	✓	✓	✓	✓	✓
Connectivity Management option	✓	✓	✓	✓	✓

**B41 supported frequency range: (2535–2655 MHz)*
Note: VoLTE supported as a firmware upgrade

Sierra Wireless
WP SERIES EMBEDDED MODULES

	WP7700	WP7702
Target Region	Global	Global
4G LTE		
Category	Cat-M1/NB1	Cat-M1/NB1
Frequency Bands	B1, B2, B3, B4, B5, B8, B12, B13, B17, B18, B19, B20, B26, B28	B1, B2, B3, B4, B5, B8, B12, B13, B17, B18, B19, B20, B26, B28
2G		
Technology supported		GSM, GPRS
Frequency Bands		900, 1800
DATA SPEED		
Peak Download Rate	Cat-M1: 300kbps | Cat-NB1: 27kbps	Cat-M1: 300kbps | Cat-NB1: 27kbps
Peak Upload Rate	Cat-M1: 375kbps | Cat-NB1: 65kbps	Cat-M1: 375kbps | Cat-NB1: 65kbps
LOCATION SERVICES		
Satellite Systems (Optional)	GPS, Galileo, Glonass, Beidou	GPS, Galileo, Glonass, Beidou
CORES	ARM® Cortex™- A7 (1.3GHz)	ARM® Cortex™- A7 (1.3GHz)
Application Core		
Telecom Core	Dual QDSP6 (600MHz)	Dual QDSP6 (600MHz)
EMBEDDED SOFTWARE		
Secure Boot	✓	✓
Pre-certified Firmware	✓	✓
APPLICATION FRAMEWORK		
Embedded Platform	Legato® open source	Legato® open source
Linux Distribution	Yocto, Long-term supported Linux Kernel (LTSI)	Yocto, Long-term supported Linux Kernel (LTSI)
AUDIO CODECS		
Digital audio	✓	✓
PCM/12S	✓	✓
Codec: HR, FR, EFR, AMR	✓	✓
Echo cancellation & noise reduction	✓	✓
DTMF	✓	✓
USB DRIVERS		
Windows® 7 and 8	✓	✓
Linux	✓	✓
INTERFACES		
UART	2	2
USB	1	1
12C	1	1
ADC	4	4
GPIO	18	18
Tx ON Indicator	1	1
SIM Interface 1.8V/3V	1	1
SPI	1	1
HARDWARE		
CF3™ Form Factor (LGA)	✓	✓
Snap-in socket option	✓	✓
Dimensions	22x23x2.5mm	22x23x2.5mm
Antenna: Diversity	✓	✓
Antenna: MIMO	✓	✓
TEMPERATURE RANGE		
Industrial Grade	-40°C to +85°C	-40°C to +85°C
APPROVALS		
Regulatory	PTCRB, FCC, GCF, IC	PTCRB, FCC, GCF, IC
Carrier	AT&T, Verizon, NTT, Telstra, KT, SKT	AT&T, Verizon, NTT, Telstra, KT, SKT
CONNECTIVITY		
Optional Ready-to-Connect Sierra Wireless embedded SIM	✓	✓
CLOUD SERVICES		
Free Unlimited FOTA upgrades	✓	✓
Device Management option	✓	✓
Application Enablement option	✓	✓
Connectivity Management option	✓	✓

Note: VoLTE supported as a firmware upgrade

About Sierra Wireless

Sierra Wireless is building the Internet of Things with intelligent wireless solutions that empower organizations to innovate in the connected world. We offer the industry's most comprehensive portfolio of 2G, 3G, 4G, and LPWA embedded modules and gateways, seamlessly integrated with our secure cloud and connectivity services. OEMs and enterprises worldwide trust our innovative solutions to get their connected products and services to market faster. For more information, visit www.sierrawireless.com.

Sierra Wireless, the Sierra Wireless logo, AirPrime, and the red wave design are trademarks of Sierra Wireless. Other registered trademarks that appear on this brochure are the property of the respective owners. © 2017 Sierra Wireless, Inc. 2017.12.08

SIERRA WIRELESS®