

Sierra Wireless® HL Series Embedded Modules

Compact, Flexible, and Future Proof 2G, 3G, and 4G Essential Modules

Sierra Wireless® AirPrime® HL embedded modules offer everything device manufacturers need to meet essential connectivity requirements. Key differentiators include a common form factor, small size, low-power consumption, enhanced RF performance, optional GNSS (GPS and GLONASS), and worldwide coverage.

UNLIMITED FOTA INCLUDED

Powered by AirVantage®, this cloud-based service makes it easy to keep the module firmware updated and your deployments healthy in the field.



COMPACT: THE SMALLEST 2G TO 4G FORM FACTOR ON THE MARKET

The HL Series is the smallest module on the market sharing a common form factor across 2G, 3G, and 4G technologies. Now, with just one PCB design, device manufacturers can easily integrate voice and data connectivity and deploy in any region, on any wireless mobile network.

FLEXIBLE: SOLDER DOWN OR SNAP-IN SOCKET OPTIONS

The compact form factor offers the choice of soldering down the module for efficient high-volume production or, using a snap-in socket on the same solder pads for total flexibility in prototyping or smaller volume runs. The innovative snap-in socket allows device manufacturers to deploy or change modules at any point in the production and product life cycles.

FUTURE PROOF: INTELLIGENT PIN-TO-PIN COMPATIBILITY

The pin-out on the common form factor enables forward and backward compatibility between the different 2G, 3G, and 4G module variants. This means that the mechanical pin location delivers the same function across the series. The pin-out of the HL series is compatible with the application processing WP Series.

4G LTE Cat 1	HL7618*	HL7648*	HL7688*	HL7690*	HL7692
TARGET REGION	Americas	Americas	Americas	Europe	Europe
CF3™ FORM FACTOR					
LGA	✓	✓	✓	✓	✓
Snap-in Socket Option	✓	✓	✓	✓	✓
Shieldcan Technology	✓	✓		✓	✓
Dimensions: 22 x 23 x 2.5 mm	✓	✓	✓	✓	✓
4G LTE Cat 1 FREQUENCY BANDS	B4, B13	B2, B4, B12	B2, B4, B5, B8, B17	B3, B8, B20	B3, B8, B20
FALLBACKS			HSPA+: B2, B5		GSM/GPRS: 900, 1800
APPROVALS					
Regulatory: PTCRB, FCC, GCF, IC, CE	✓	✓	✓	✓	✓
Carrier	Verizon	AT&T, T-Mobile	AT&T	KPN	Vodafone
CURRENT CONSUMPTION					
Power Supply for Extended Battery Life	2.8V	2.8V	2.8V	2.8V	2.8V
Alarm (leakage only)	110µA	110µA	110µA	110µA	110µA
Standby and Idle (Typ Sleep)	1.4µA	1.4µA	1.4µA	1.4µA	1.4µA
HSxPA max			770µA		
LTE max	945µA	750µA	750µA	750µA	750µA
AUDIO					
Digital Audio	✓	✓	✓	✓	✓
DTMF			✓		
INTERFACES					
UART	8	8	8	8	8
USB	1	1	1	1	1
ADC	2	2	2	2	2
GPIO	8	8	8	8	8
Flash LED Output	1	1	1	1	1
PWM (Buzzer)	1	1	1	1	1
Tx Burst Indicator	1	1	1	1	1
SIM Interface 1.8V/3V (DSSS Support)	1	1	1	1	1
INTERNET SERVICES					
TCP+UDP+FTP+HTTP+HTTPS	✓	✓	✓	✓	✓
SOFTWARE AND DRIVERS					
Secure Boot	✓	✓	✓	✓	✓
Pre-Certified Firmware	✓	✓	✓	✓	✓
Linux Driver: Standard ECM	✓	✓	✓	✓	✓
Android RIL	✓	✓	✓	✓	✓
CLOUD SERVICES					
Free Unlimited FOTA Upgrades	✓	✓	✓	✓	✓
SIM Management Option	✓	✓	✓	✓	✓
Device Management Option	✓	✓	✓	✓	✓
Data Storage/ Application Enablement Platform Option	✓	✓	✓	✓	✓
TEMPERATURE RANGE					
Industrial Grade -40°C to +85°C	✓	✓	✓	✓	✓

* Commercially available soon

SIERRA WIRELESS®

4G LTE Cat 4	HL7518	HL7528	HL7538*	HL7539	HL7548	HL7549	HL7588
TARGET REGION	Americas	Korea	Japan	Japan	Americas	Australia	Americas
CF3™ FORM FACTOR							
LGA	✓	✓	✓	✓	✓	✓	✓
Snap-in Socket Option	✓	✓	✓	✓	✓	✓	✓
Molding Technology	✓	✓	✓	✓	✓	✓	✓
Dimensions: 22 x 23 x 2.5 mm	✓	✓	✓	✓	✓	✓	✓
4G LTE Cat 4 FREQUENCY BANDS	B4, B13	B1, B3, B5, B7	B1, B11, B18	B1, B19, B21	B2, B4, B5, B17	B3, B7, B28	B2, B4, B5, B13, B17
FALLBACKS							HSPA+: B2, B5
APPROVALS							
Regulatory: PTCRB, FCC, GCF, IC, KC Mark, JRF, JPA	✓	✓	✓	✓	✓	✓	✓
Carrier	Verizon	LGU+, SKT, KT	KDD	NTT	AT&T, Rogers	Telstra	AT&T, Verizon
CURRENT CONSUMPTION							
Power Supply for Extended Battery Life	3.2V	2.8V	2.8V	2.8V	2.8V	2.8V	2.8V
Alarm (leakage only)	110µA	110µA	110µA	110µA	110µA	110µA	110µA
LTE Standby and Idle (Typ Sleep)	1.5µA	1.4µA	1.4µA	1.4µA	1.4µA	1.4µA	1.4µA
HSxPA max							770µA
LTE max	945µA	750µA	750µA	750µA	750µA	750µA	750µA
AUDIO							
Digital Audio							✓
Codec: HR, FR, EFR, AMR							✓
Echo Cancellation & Noise Reduction							✓
DTMF							✓
INTERFACES							
UART	8	8	8	8	8	8	8
USB	1	1	1	1	1	1	1
ADC	2	2	2	2	2	2	2
GPIO	8	8	8	8	8	8	8
Flash LED Output	1	1	1	1	1	1	1
PWM (Buzzer)	1	1	1	1	1	1	1
Tx Burst Indicator	1	1	1	1	1	1	1
SIM Interface 1.8V/3V (DSSS Support)	1	1	1	1	1	1	1
INTERNET SERVICES							
TCP+UDP+FTP	✓	✓	✓	✓	✓	✓	✓
SOFTWARE AND DRIVERS							
Secure Boot	✓	✓	✓	✓	✓	✓	✓
Pre-Certified Firmware	✓	✓	✓	✓	✓	✓	✓
Linux Driver: Standard ECM	✓	✓	✓	✓	✓	✓	✓
Android RIL	✓	✓	✓	✓	✓	✓	✓
CLOUD SERVICES							
Free Unlimited FOTA Upgrades	✓	✓	✓	✓	✓	✓	✓
SIM Management Option	✓		✓	✓	✓	✓	✓
Device Management Option	✓		✓	✓	✓	✓	✓
Data Storage/ Application Enablement Platform Option	✓		✓	✓	✓	✓	✓
TEMPERATURE RANGE							
Industrial Grade -40°C to +85°C	✓	✓	✓	✓	✓	✓	✓

* Commercially available soon

SIERRA WIRELESS®

Sierra Wireless
HL SERIES
EMBEDDED MODULES

3G, 2G	HL8518	HL8528	HL8529	HL8548	HL8549	HL6528RD
TARGET REGION	Europe	Americas	Americas	Global	Brazil	Global
CF3™ FORM FACTOR						
LGA	✓	✓	✓	✓	✓	✓
Snap-in Socket Option	✓	✓	✓	✓		✓
Shieldcan Technology	✓	✓	✓	✓	✓	✓
Dimensions: 22 x 23 x 2.5 mm	✓	✓	✓	✓		✓
3G HSPA FREQUENCY BANDS	B1, B8	B2, B5	B2, B5	B1, B2, B5, B6, B8, B19	B1, B2, B5, B6, B8, B19	
2G EDGE/GSM/GPRS FREQUENCY BANDS	900, 1800	850, 1900		850, 900, 1800, 1900	850, 900, 1800, 1900	850, 900, 1800, 1900
APPROVALS						
Regulatory: CE, FCC, PTCRB, GCF, IC, Anatel, CCC	✓	✓	✓	✓	✓	✓
Carrier	Vodafone	AT&T	AT&T	Telstra, NTT, AT&T, Rogers	Vivo	
CURRENT CONSUMPTION						
Power Supply for Extended Battery Life	2.8V	2.8V	2.8V	2.8V	2.8V	2.8V
Alarm (leakage only)	50µA	50µA	50µA	40µA	40µA	35µA
LTE Standby and Idle (Typ Sleep)	1µA	1µA	1µA	1.2µA	1.2µA	1.3µA
HSxPA max	460µA	460µA		475µA	475µA	450µA
AUDIO						
Analog Audio						✓
Digital Audio	✓	✓	✓	✓	✓	✓
Codec: HR, FR, EFR, AMR	✓	✓	✓	✓	✓	✓
Echo Cancellation & Noise Reduction	✓	✓	✓	✓	✓	✓
DTMF	✓	✓	✓	✓	✓	✓
INTERFACES						
UART	8	8	8	8	8	8
USB	1	1	1	1	1	1
ADC	2	2	2	2	2	2
GPIO	8	8	8	8	8	8
Flash LED Output	1	1	1	1	1	1
PWM (Buzzer)	1	1	1	1	1	1
Tx Burst Indicator	1	1	1	1	1	1
SIM Interface 1.8V/3V (DSSS Support)	1	1	1	1	1	1 (DSDS Support)
LOCATION SERVICES						
GPS & Glonass Sirf V				✓	✓	✓
INTERNET SERVICES						
TCP+UDP+FTP+HTTP+HTTPS	✓	✓	✓	✓	✓	✓
SOFTWARE AND DRIVERS						
Secure Boot	✓	✓	✓	✓	✓	✓
Pre-Certified Firmware	✓	✓	✓	✓	✓	✓
Linux Driver: Standard ECM	✓	✓	✓	✓	✓	
Android RIL	✓	✓	✓	✓	✓	
CLOUD SERVICES						
Free Unlimited FOTA Upgrades	✓	✓	✓	✓	✓	✓
SIM Management Option	✓	✓	✓	✓	✓	✓
Device Management Option	✓	✓	✓	✓	✓	✓
Data Storage/ Application Enablement Platform Option	✓	✓	✓	✓	✓	✓
TEMPERATURE RANGE						
Industrial Grade -40°C to +85°C	✓	✓	✓	✓	✓	✓

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, and 4G 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.

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