



Sierra Wireless® HL Series Embedded Modules

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, Flexible, and Future Proof 2G, 3G, 4G, and LPWA 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.

COMPACT: THE SMALLEST LPWA, 4G, 3G, 2G FORM FACTOR ON THE MARKET

The HL Series is the smallest module on the market sharing a common form factor across 2G, 3G, 4G, and LPWA 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, 4G, and LPWA 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.

	HL7618	HL7648	HL7650	HL7688	HL7690	HL7692
Target Region	Americas	Americas	Australia	Americas	Europe	Europe
4G LTE						
Category	Cat-1	Cat-1	Cat-1	Cat-1	Cat-1	Cat-1
Frequency Bands	B4, B13	B2, B4, B12	B3, B5, B8, B28	B2, B4, B5, B17	B3, B8, B20	B3, B8, B20
3G						
Technology supported			HSPA+	HSPA+		
Frequency Bands			B1, B5, B8	B2, B5		
2G						
Technology supported						EDGE, GSM, GPRS
Frequency Bands						900, 1800
DATA SPEED						
Peak Download Rate	10Mbps	10Mbps	10Mbps	10Mbps	10Mbps	10Mbps
Peak Upload Rate	5Mbps	5Mbps	5Mbps	5Mbps	5Mbps	5Mbps
EMBEDDED SOFTWARE						
Secure Boot	✓	✓	✓	✓	✓	✓
Pre-certified Firmware	✓	✓	✓	✓	✓	✓
AUDIO CODECS						
Digital audio	✓	✓	✓	✓	✓	✓
Codec: HR, FR, EFR, AMR	✓	✓	✓	✓	✓	✓
Echo cancellation & noise reduction	✓	✓	✓	✓	✓	✓
DTMF	✓	✓	✓	✓	✓	✓
SYSTEM DRIVERS						
Windows® 7	✓	✓	✓	✓	✓	✓
Windows® 8	✓	✓	✓	✓	✓	✓
Linux Driver: Stanard ECM	✓	✓	✓	✓	✓	✓
Android RIL	✓	✓	✓	✓	✓	✓
INTERFACES						
UART	1x - 8-wire	1x - 8-wire	1x - 8-wire	1x - 8-wire	1x - 8-wire	1x - 8-wire
USB	1	1	1	1	1	1
ADC	2	2	2	2	2	2
GPIO	8	8		8	8	8
Tx ON Indicator	1	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	22x23x2.5mm
Antenna						
Diversity	✓	✓	✓	✓	✓	✓
TEMPERATURE RANGE						
Industrial Grade	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
APPROVALS						
Regulatory	FCC, GCF	FCC, PTCRB	GCF, RCM,CE	FCC, PTCRB	CE, GCF	CE, GCF
Carrier	Verizon	AT&T, T-Mobile	Telstra, Vodafone	AT&T	KPN	Vodafone
CLOUD SERVICES						
Free Unlimited FOTA upgrades	✓	✓	✓	✓	✓	✓
Device Management option	✓	✓	✓	✓	✓	✓
Application Enablement option	✓	✓	✓	✓	✓	✓
Connectivity Management option	✓	✓	✓	✓	✓	✓

* Commercially available soon

	HL7518	HL7528	HL7538	HL7539	HL7548	HL7549	HL7588
Target Region	Americas	Korea	Japan	Japan	Americas	Australia	Americas
4G LTE							
Category	Cat-4	Cat-4	Cat-4	Cat-4	Cat-4	Cat-4	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
3G							
Technology supported							HSPA+
Frequency Bands							B2, B5
DATA SPEED							
Peak Download Rate	150Mbps	150Mbps	150Mbps	150Mbps	150Mbps	150Mbps	150Mbps
Peak Upload Rate	50Mbps	50Mbps	50Mbps	50Mbps	50Mbps	50Mbps	50Mbps
EMBEDDED SOFTWARE							
Secure Boot	✓	✓	✓	✓	✓	✓	✓
Pre-certified Firmware	✓	✓	✓	✓	✓	✓	✓
AUDIO CODECS							
Digital audio							✓
Codec: HR, FR, EFR, AMR							✓
Echo cancellation & noise reduction							✓
DTMF							✓
SYSTEM DRIVERS							
Windows® 7	✓	✓	✓	✓	✓	✓	✓
Windows® 8	✓	✓	✓	✓	✓	✓	✓
Linux Driver: Stanard ECM	✓	✓	✓	✓	✓	✓	✓
Android RIL	✓	✓	✓	✓	✓	✓	✓
INTERFACES							
UART	1x - 8-wire	1x - 8-wire	1x - 8-wire	1x - 8-wire	1x - 8-wire	1x - 8-wire	1x - 8-wire
USB	1	1	1	1	1	1	1
ADC	2	2	2	2	2	2	2
GPIO	8	8	8	8	8	8	8
Tx ON Indicator	1	1	1	1	1	1	1
SIM Interface 1.8V/3V	1	1	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	22x23x2.5mm	
Antenna							
Diversity	✓	✓	✓	✓	✓	✓	✓
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	-40°C to +85°C	-40°C to +85°C	
APPROVALS							
Regulatory	FCC, GCF	KC Mark	JRF, JPA	JRF, JPA	FCC, IC, PTCRB	CE, RCM	FCC, PTCRB, IC, GCF
Carrier	Verizon	KT, LGU+, SKT	KDDI	NTT	AT&T, Rogers	Telstra	AT&T, Verizon
CLOUD SERVICES							
Free Unlimited FOTA upgrades	✓	✓	✓	✓	✓	✓	✓
Device Management option	✓		✓	✓	✓	✓	✓
Application Enablement option	✓		✓	✓	✓	✓	✓
Connectivity Management option	✓		✓	✓	✓	✓	✓

* Commercially available soon

	HL8518	HL8528	HL8529	HL8548	HL8549	HL6528
Target Region	Europe	Americas	Americas	Global	Brazil	Global
3G						
Technology supported	HSPA	HSPA	HSPA	HSPA	HSPA	
Frequency Bands	B1, B8	B2, B5	B2, B5	B1, B2, B5, B6, B8, B19	B1, B2, B5, B6, B8, B19	
2G						
Technology supported	EDGE, GSM, GPRS	EDGE, GSM, GPRS		EDGE, GSM, GPRS	EDGE, GSM, GPRS	GSM, GPRS
Frequency Bands	900, 1800	850, 1900		850, 900, 1800, 1900	850, 900, 1800, 1900	850, 900, 1800, 1900
LOCATION SERVICES						
Satellite Systems				GPS & Glonass Sirf V	GPS & Glonass Sirf V	GPS & Glonass Sirf V
DATA SPEED						
Peak Download Rate	7.2Mbps	7.2Mbps	7.2Mbps	7.2Mbps	7.2Mbps	
Peak Upload Rate	5.76Mbps	5.76Mbps	5.76Mbps	5.76Mbps	5.76Mbps	
EMBEDDED SOFTWARE						
Secure Boot	✓	✓	✓	✓	✓	✓
Pre-certified Firmware	✓	✓	✓	✓	✓	✓
AUDIO CODECS						
Analog audio						✓
Digital audio	✓	✓	✓	✓	✓	✓
Codec: HR, FR, EFR, AMR	✓	✓	✓	✓	✓	✓
Echo cancellation & noise reduction	✓	✓	✓	✓	✓	✓
DTMF	✓	✓	✓	✓	✓	✓
SYSTEM DRIVERS						
Windows® 7	✓	✓	✓	✓	✓	✓
Windows® 8	✓	✓	✓	✓	✓	✓
Linux Driver: Stanard ECM	✓	✓	✓	✓	✓	
Android RIL	✓	✓	✓	✓	✓	
INTERFACES						
UART	1x - 8-wire	1x - 8-wire	1x - 8-wire	1x - 8-wire	1x - 8-wire	1x - 8-wire
USB	1	1	1	1	1	1
ADC	2	2	2	2	2	2
GPIO	8	8	8	8	8	8
Tx ON Indicator	1	1	1	1	1	1
SIM Interface 1.8V/3V	1	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	22x23x2.5mm
TEMPERATURE RANGE						
Industrial Grade	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
APPROVALS						
Regulatory	CE, GCF	FCC, IC, PTCRB	FCC, IC, PTCRB	Anatel, CE, FCC, GCF, IC, PTCRB	Anatel, CE, FCC, GCF, IC, PTCRB	Anatel, CCC, CE, FCC, GCF, IC, PTCRB
Carrier		AT&T	AT&T	AT&T, NTT, Rogers, Telstra, Vodafone	Vivo	Vodafone
CLOUD SERVICES						
Free Unlimited FOTA upgrades	✓	✓	✓	✓	✓	✓
Device Management option	✓	✓	✓	✓	✓	✓
Application Enablement option	✓	✓	✓	✓	✓	✓
Connectivity Management option	✓	✓	✓	✓	✓	✓
CONNECTIVITY						
Optional Ready-to-Connect Sierra Wireless embedded SIM	✓					

	HL7718	HL7748	HL7749
Target Region	Americas	Americas	Australias
4G LTE			
Technology supported	Cat-M1	Cat-M1	Cat-M1
Frequency Bands	B13	B2, B4, B12	B3, B28
DATA SPEED			
Peak Download Rate	300 Kbps	300 Kbps	300 Kbps
Peak Upload Rate	375 Kbps	375 Kbps	375 Kbps
EMBEDDED SOFTWARE			
Secure Boot			
Pre-certified Firmware	✓	✓	✓
INTERFACES			
UART	1x - 8-wire	1x - 8-wire	1x - 8-wire
USB	1	1	1
ADC	2	2	2
GPIO	8	8	8
SIM Interface 1.8V/3V	1	1	1
HARDWARE			
CF3™ Form Factor			
LGA	✓	✓	✓
Snap-in socket option	✓	✓	✓
Dimensions	22x23x2.5mm	22x23x2.5mm	22x23x2.5mm
TEMPERATURE RANGE			
Industrial Grade	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
APPROVALS			
Regulatory	FCC, GCF	FCC, PTCRB	CE, RCM
Carrier	Verizon	AT&T	Telstra
CLOUD SERVICES			
Free Unlimited FOTA upgrades	✓	✓	✓
Device Management option			
Application Enablement option			
Connectivity Management option	✓	✓	✓
CONNECTIVITY			
Optional Ready-to-Connect Sierra Wireless embedded SIM	✓	✓	✓

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.