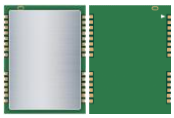
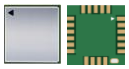
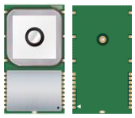
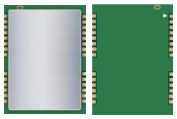
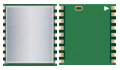
Quectel GNSS Module Family

		L10	L20	L30	L50	L16	L70
Appearance							
Picture							
Packaging		28-pin SMD GPS module	24-pin SMD GPS module	21-pin SMD GPS module	24-pin SMD GPS module	28-pin SMD GNSS module	18-pin SMD GPS module
General Features							
Chip solution		MT3329	SiRFIV	SiRFIV	SiRFIV	ST Teseo II	MT3339
GNSS		GPS	GPS	GPS	GPS	GLONASS/GPS/ GALILEO/QZSS	GPS
Dimensions		22.4x17.0x3.0mm	16.0x12.2x2.4mm	9.0x9.0x1.6mm	28.0x16.0x3.0mm	22.4x17.0x3.0mm	10.1x9.7x2.5mm
Weight		2.0 g	1.0 g	0.6 g	4.0 g	2.2 g	0.6 g
L1 Band Receiver (C/A Code)	Channel Number	22 Track/66 Acq.	48 Track	48 Track	48 Track	32 Track/2 fast Acq.	22 Track/66 Acq.
	SBAS	WAAS, EGNOS, MSAS	WAAS, EGNOS,QZSS	WAAS, EGNOS	WAAS, EGNOS	WAAS, EGNOS,MSAS	WAAS,EGNOS,MSAS, GAGAN
TTFF(Time To First Fix)	Cold Start	<35s	<35s, Autonomous 25s typ. With CGEE	<35s, Autonomous 25s typ. With CGEE	<33s, Autonomous 25s typ. With CGEE	<35s, Autonomous <30s, With ST-AGPS	<35s, Autonomous <15s, With EASY
	Warm Start	<35s	<35s, Autonomous 10s typ. With CGEE	<35s, Autonomous 10s typ. With CGEE	<33s, Autonomous 10s typ. With CGEE	<24s, Autonomous, <5s, With ST-AGPS	<30s, Autonomous <5s, With EASY
	Hot Start	<1s	<1s	<1s	<1s	<2.5s	<1s
Sensitivity	Autonomous Acquisition	-148dBm	-148dBm	-145dBm	-148dBm	-146dBm	-148dBm
	Reacquisition	-160dBm	-160dBm	-159dBm	-160dBm	-160dBm	-160dBm
	Tracking	-165dBm	-163dBm	-160dBm	-163dBm	-162dBm	-163dBm
Position Accuracy (autonomous)		<2.5m CEP	<2.5m CEP	<2.5m CEP	<2.5m CEP	<1.5m CEP	<2.5m CEP
Velocity Accuracy (without aid)		<0.1m/s	<0.01m/s	<0.01m/s	<0.01m/s	<0.1m/s	<0.1m/s
Maximum Acceleration Accuracy (without aid)		<0.1 m/s²	<0.1 m/s²	<0.1 m/s²	<0.1 m/s²	<0.1 m/s²	<0.1 m/s²
Timing Accuracy		<61ns	<500ns	<500ns	<500ns	<15ns	<10ns
Max Update Rate		5Hz	5Hz	1Hz	1Hz	5Hz	10Hz
Baud Rate		9600bps	4800bps	4800bps	4800bps	9600bps	9600bps
Temperature Range	Operating	-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
	Storage	-45°C to 125°C	-45°C to 125°C	-45°C to 125°C	-45°C to 125°C	-45°C to 125°C	-45°C to 125°C
Electrical Data							
Power Supply		3.0V to 4.3V	2.0V to 3.6V	1.71V to 1.89V	1.71V to 1.89V	3.0V to 3.6V	2.8V to 4.3V
I/O Voltage		2.7V to 2.9V	2.0V to 3.6V	1.71V to 1.89V	1.71V to 1.89V	3.3V	2.7V to 2.9V
Power Consumption	Acquisition	43mA	39 mA	40mA	48mA	120mA	21mA
	Tracking	38mA	36 mA	36mA	38mA	85mA	18mA
	Backup	4uA	33uA	17uA	20uA	75uA	7uA
Interfaces							
UART		Yes	Yes	Yes	Yes	Yes	Yes
IIC(NMEA)		No	No	Yes	Yes	No	No
DRIIC		No	Yes	Yes	Yes	No	No
USB		Yes	No	No	No	No	No
Reset		Yes	No	Yes	Yes	No	Yes
Time Pulse		Yes	Yes	Yes	Yes	Yes	Yes
Antenna							
Antenna detection		Short circuit detection and protection Open circuit detection	No	No	No	No	No
Antenna Type		Active or passive	Active or passive	Active or passive with LNA	Embeded patch antenna	Active or passive	Active or passive
Antenna Power		External or internal	External or internal	External	Internal	External or internal	External or internal
Recommended Applications							
Vehicle Tracking and Tracing		★	★★	★	★	★★	★★
Pet Tracking			★	★	★	★	★★
Asset Tracking		★	★	★	★	★	★★
Connected PND		★	★	★	★	★	★★
GIS Application		★	★	★	★	★	★
Security		★	★	★	★	★	★
Industrial PDA			★	★	★	★	★★
Digital camera							★★
Note: ★: Recommended application fileds; ★★: Highly recommended application fields							