

C16-C20

Reference Design

CDMA and GPS/GNSS solutions with integrated antennas

Product description

The C16-C20 CDMA and GPS/GNSS reference design is a complete and integrated solution for telematics applications such as fleet management, asset tracking, road pricing, and security/surveillance. It demonstrates the integration of u-blox' MAX-6 and MAX-7 GPS/GNSS receivers with a LISA-C200 CDMA module. This solution uses passive wireless and GPS/GNSS antennas.

This reference design supports full access to the MAX-6Q or MAX-7Q GPS/GNSS module via the LISA-C200 module (available in firmware version x3S). Thus CDMA and GPS/GNSS can be controlled through a single serial port from any host processor. Direct access to the GPS/GNSS and CDMA modules is also available via two mini USB connectors. The LISA-C200 module features dual-band CDMA voice and 153 kb/s data transmission. The high performance u-blox 6 and u-blox 7 GPS/GNSS engines enable navigation even in weak signal environments.

Reference designs are intended to assist system integrators to develop their own end products quickly with fast time-to-market. On request, u-blox provides comprehensive technical documentation including schematics, layouts, BOM and design recommendations.

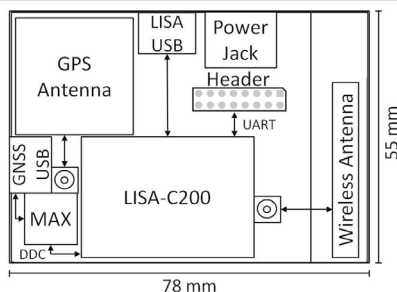
Characteristics

GPS/GNSS antenna	25 x 25 mm ceramic patch
Wireless antenna	Hexaband Cellular SMT
Dimensions	78 x 55 x 6 mm (12 mm with connectors)
Connectors	1 coaxial power jack. Pin diameter: 2.0 mm 1 DIL header 2-Rows 16pin. Pitch: 2.54 mm 2 Mini USB ports

Environmental data

Power supply	4.6 V – 5.0 V power jack input 3.5 V – 4.4 V header VCC input
Supply Current	< 790 mA Connected mode & GPS/GNSS
Operating temp.	–30°C to 85°C
Serial ports	1 UART and 1 Mini USB to wireless module 1 UART and 1 Mini USB to GPS/GNSS

Block diagram



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Pin assignment

1	GNSS_RxD	1	GPS/GNSS received data
2	GNSS_TxD	0	GPS/GNSS transmitted data
3,4	VCC	1	Power Supply
5,6	GND	1	Ground
7	Reserved	N/A	Reserved pin
8	RI	0	UART ring indicator
9,10	Reserved	N/A	Reserved pin
11	RTS	1	UART ready to send
12	CTS	0	UART clear to send
13	TxD	1	UART transmitted data
14	RxD	0	UART received data
15	Power On	1	Power-on input
16	Reset_N	1	External reset input

GPS/GNSS receiver performance

The GPS/GNSS solution integrates a 25 x 25 mm antenna on a 65 x 55 mm effective ground plane. Refer to the GPS antenna application note and MAX-6 and MAX-7 GPS/GNSS documentation.

Ordering Information

(Sold in sample quantities only)

C16-C20-00S	LISA-C200 (Sprint) with MAX-6Q/MAX-7Q reference design on 78 x 55 mm PCB with Wireless and GPS/GNSS antennas
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