C16-C20/U20/G35 Application Board

Wireless and GNSS solutions with integrated antennas

Product description

The C16-C20/U20/G35 Wireless and GNSS application board 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-7 GNSS receiver with a u-blox wireless module. Utilizing the u-blox nested design concept, it can embed either a LISA-C200 CDMA, LISA-U200 W-CDMA or SARA-G350 GSM/GPRS module as mounting option. This solution uses passive wireless and GPS/GNSS antennas.

This application board supports full access to the MAX-7Q GNSS module via the wireless module. Thus CDMA and GNSS can be controlled through a single serial port from any host processor. Direct access to the GNSS and wireless modules is also available via two mini USB connectors. The high performance u-blox 7 GNSS engine enable navigation even in weak signal environments.

Application boards 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.
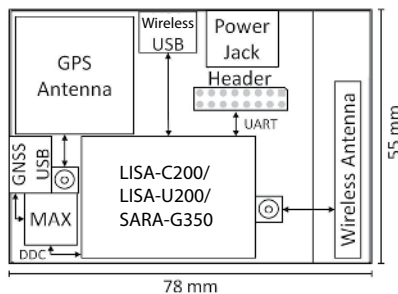
Characteristics

Wireless module	LISA-C200 CDMA 1xRTT, or LISA-U200 W-CDMA, or SARA-G350 GSM/GPRS
GPS/GNSS antenna	25 x 25 mm ceramic patch
GNSS module	MAX-7Q
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 & GNSS
Operating temp.	–30° C to 85° C
Serial ports	1 UART, 1 Mini USB to wireless module, and 1 Mini USB to GNSS module

Block diagram

Pin assignment

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

GNSS receiver performance

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

Ordering Information (Sold in sample quantities only)

C16-C20-00S   App. board: LISA-C200 (CDMA/Sprint) and MAX-7Q

C16-C20-20S   App. board: LISA-C200 (CDMA/Verizon) and MAX-7Q

C16-U20-00S   App. board: LISA-U200 (W-CDMA) and MAX-7Q

C16-G35-00S   App. board: SARA-G350 (GSM/GPRS) and MAX-7Q

Contact us

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