

Embedded Bluetooth Module

BlueNiceCom IV

Key Features

- Bluetooth radio module (Class 2)
- Bluetooth 2.0 specification
- Digital AUDIO interface (PCM interface)
- Integrated profiles: SPP, GAP, SDAP
- Supported profiles: DUN, FAX, FTP, HSP, HFP, OPP, SYNC, BIP, BPP
- Small form factor
- Integrated chip antenna
- UART interface with programmable baud rate
- EN 300 328 compliant



Description

The BlueNiceCom IV module (BNCIV) is a completely integrated Bluetooth solution, containing Bluetooth radio (LMX9830), antenna and a fully implemented software protocol stack. The module provides reliable Bluetooth data communication links as well as AUDIO communication links. Thus the module supports AUDIO gateway applications (e.g. Headset or Handsfree). The module features point-to-point and point-to-multipoint link management supporting data rates up to 704 kbps. The internal memory supports up to 7 active Bluetooth ACL links (data) and one SCO link (AUDIO). BlueNiceCom IV is supplied with an onboard chip antenna.

Depending on the respective application, BlueNiceCom IV can either be linked to a processor via serial UART-interface or directly to a terminal device. Configuration of the module is being effected through a host processor. Depending on the application and pre-parameterisation, BlueNiceCom IV can either be operated as 'master' module or as stand-alone 'slave' module.

The module supports automatic 'slave' operation eliminating the need for an external control unit. The BlueNiceCom IV module enables OEMs and designers to easily add wireless Bluetooth communication to their products without the need for RF and antenna design expertise. The surface-mounted AMB2300 radio module is available in Tape & Reel packaging for automatic component placement.

Firmware

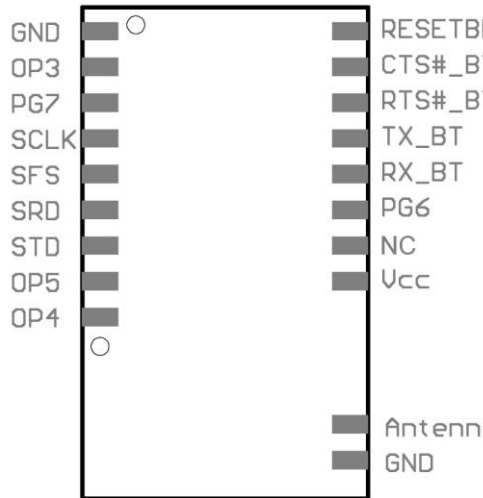
The firmware supplied within this module offers a complete Bluetooth stack 2.0.

BlueNiceCom IV Profiles	Profiles supported in combination with a host system
SPP (Serial Port Profile)	DUN (Dial up Networking Profile)
GAP (Generic Access Profile)	FAX (Facsimile Profile)
SDAP (Service Discovery Access Profile)	FTP (File Transfer Profile)
	HSP (Headset Profile)
	HFP (Handsfree Profile)
	OPP (Object Push Profile)
	SYNC (Synchronisation Profile)
	BIP (Basic Imaging Profile)
	BPP (Basic Printing Profile)

Evaluation-Kit

The Quick-Start Evaluation Kit AMB2300-EV enables genuine quick and easy evaluation and application development, based on the BlueNiceCom IV module.

Pin out



Pin Assignment

Pad Name	Type ¹	Description
GND	I	Ground
OP3	I	Configuration of UART data rate at start up, otherwise internal use
PG7	I/O	GPIO (default setting: UART activity)
SCLK	I/O	Audio PCM Interface Clock
SFS	I/O	Audio PCM Interface Frame Synchronization
SRD	I	Audio PCM Interface Receive Data Input
STD	O	Audio PCM Interface Transmit Data Output
OP5	I/O	Configuration of UART data rate at start up
OP4	I I/O	Configuration of UART data rate at start up, otherwise GPIO
RESETBB#	I	Reset-Input, Internal Pull up, active low
CTS#_BT	I	Host Serial Port Clear To Send, active low
RTS#_BT	O	Host Serial Port Request To Send, active low
TX_BT	O	Host Serial Port Transmit Data
RX_BT	I	Host Serial Port Receive Data
PG6	I/O	GPIO (default setting: BT link status)
NC	I	Not connected, no ground
Vcc	I	Power supply 2.9V to 3.6V
Antenna	O	Connector for external antenna, see: User's manual

Specifications

Performance	Range*	max. 20 m
	RF data rate	max. 704 kbps
	Data rate (serial)	9.6 kbps to 921.6 kbps,
	RF output power	typ. 0 dBm
	RF sensitivity	typ. -80 dBm
General	Power consumption	typ. 65 mA
	Dimensions	27.5 x 16.0 x 3.5 mm
	Operating temperature	-20 to +70 °C
	Weight	< 2 g
	Antenna	Ceramic antenna
	RF transceiver	LMX9830
	Software	Complete Bluetooth (2.0) Stack
RF technology	Frequency	2.4 GHz
	Channels	79 channels
	Modulation	FHSS
Conformity	Europe	EN 300 328

* Range stated is calculated assuming line-of-sight. Actual range will vary based upon specific board integration, antenna selection, and environment.

Related Products

- **AMB230-EV** Evaluation-Kit BNC IV

Ordering information

Item No.	Description
AMB2300	Bluetooth 2.0 Module

Contact

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¹ Typ: I = Input, O = Output