LM505 USB Module
Bluetooth HCI ROM USB Module with Broadcom Chip
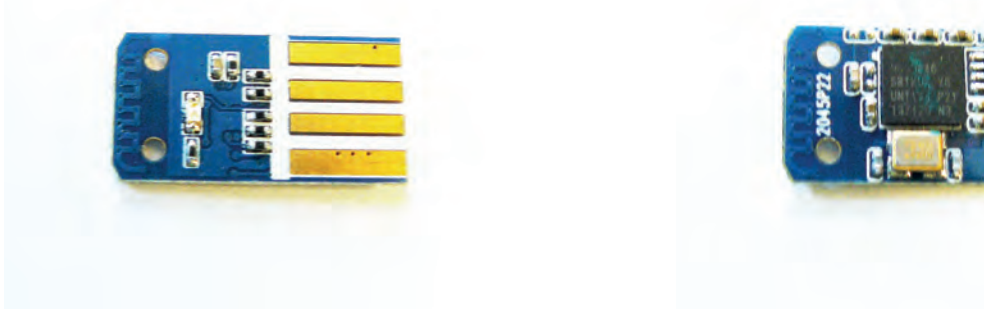
BT v2.1 USB Module

1 Features

• Easily integrated in Embedded Devices

• Compatible with Bluetooth v2.1+EDR specification.
  Backward compatible with Bluetooth 2.0 + EDR devices

• Support Maximum Asynchronous Data Rate 3 Mbps

• Provide data access via USB 2.0 interface

• Low power consumption

• Very small Size (19.7 mm x 10 mm)

• Supported on Embedded Linux BlueZ Stack

• Stereo Audio supported. VoIP calls over Bluetooth also supported

• Interoperable with PDAs, Phones

• Class 2 device with 10 m range

2 Description

LM505 EDR Bluetooth HCI ROM Module is an ideal solution for providing Bluetooth connectivity to embedded devices running an OS with Bluetooth Stack like Embedded Linux with BlueZ support.
This is a very small form factor and high performance module which allows you to connect to upto 7 Bluetooth devices simultaneously.

The module integrates high performance Bluetooth Radio, Baseband, Link Manager, Host Controller Interface and can be used with embedded Bluetooth Stacks which offers a huge range of Bluetooth profiles for variety of connectivity applications.

Due to its small size, high performance, low power consumption and high sensitivity this adapter is ideally suited for Bluetooth connectivity applications where the adapter can fit discreetly into portable devices that have USB interface.

3 Packaging Options

Tape and Reel or Tray
Part No 505-0513

1x Bluetooth USB Module

4 General Specification

Specification	Description
Product Name	LM505 Bluetooth HCI USB Module
Chipset	Broadcom BCM2046
Bluetooth Standard	Bluetooth v2.1 + EDR
Frequency Band	2.4 - 2.4835 GHz ISM Band
Modulation Method	GFSK for 1 Mbps, $\pi/4$-DQPSK for 2 Mbps, 8-DPSK for 3 Mbps
Spread Spectrum	FHSS (Frequency Hopping Spread Spectrum)
Transfer Rate (Max)	3 Mbps enhanced data rate
RF Output Power	Class 2
Working Distance	10 m - 25 m in open space
Rx Sensitivity	-80 dBm at 0.1 % BER
Input Voltage	DC 5V (via USB interface)
I/O Interface	USB 2.0
LED indicator	Power/Active
OS Support	Embedded Linux or WinCE with Bluetooth Stack support
Size	19.7 (L) x 10(W)
Software/Drivers	Linux BlueZ, Windows CE, Windows Mobile Bluetooth Driver
Bluetooth Profiles	GAP,SPP,HSP, HFP, DUN, FTP, FAX, PAN, LAN, HID, SYNC, HCRP, A2DP, AVRCP, BIP, GOEP, SDAP, OPP

5 FCC Warning Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.
NOTE 1: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15
of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential
installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance
with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference
will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception,
which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by
one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could
void the user's authority to operate the equipment.

6 FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance.

Note 1: This module certified that complies with RF exposure requirment under portable or mobile or fixed condition, this module is to be installed only in portable or mobile or fixed applications.
A portable device is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user
A mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons. Transmitting devices designed to be used by consumers or workers that can be easily re-located, such as wireless devices associated with a personal computer, are considered to be mobile devices if they meet the 20 centimeter separation requirement.
A fixed device is defined as a device is physically secured at one location and is not able to be easily moved to another location.

Note 2: Any modifications made to the module will void the Grant of Certification, this module is limited to OEM installation only and must not be sold to end-users, end-user has no manual instructions to remove or install the device, only software or operating procedure shall be placed in the end-user operating manual of final products.

Note 3: The device must not transmit simultaneously with any other antenna or transmitter.

Note 4: To ensure compliance with all non-transmitter functions the host manufacturer is responsible for ensuring compliance with the module(s) installed and fully operational. For example, if a host was previously authorized as an unintentional radiator under the Declaration of Conformity procedure without a transmitter certified module and a module is added, the host manufacturer is responsible for ensuring that the after the module is installed and operational the host continues to be compliant with the Part 15B unintentional radiator requirements. Since this may depend on the details of how the module is integrated with the host, LM Technologies Ltd shall provide guidance to the host manufacturer for compliance with the Part 15B requirements.

Note 5: FCC ID label on the final system must be labeled with "Contains FCC ID: VVXLM505" or "Contains transmitter module FCC ID: VVXLM505".
The transmitter module must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the host product. LM Technologies Ltd is responsible for the compliance of the module in all final hosts.