



LM540v2 – Long Range Bluetooth 2.1+EDR USB Adapter

750m Distance with 2 dBi RP Dipole Antenna

Product LM540v2
Part No 540-0542
Revised 16/12/2014



Features

- World's Smallest Bluetooth USB SMA Antenna Fit Adapter
- Powered From USB only
- 787m Connection & Pass Data tested between 2 x LM540 each with 2Dbi Antenna
Tested at Eaton Dorney Olympic Rowing Park Surrey England.
- CSR ROM Bluecore 4
- Compatible with 14 profiles.
- Plug & Play with most operating systems including. OSX, Linux, Windows XP-W7.
- Windows 8 Compatible with a free downloaded driver.
- IVT Pre-loaded License Available. LM tested a range of Bluetooth stacks and found IVT and LM540v2 recorded the lowest latency of any Bluetooth stack in the retail market.
- 17.9Dbm Output + 2Dbi Gain Antenna 19.9 Dbm Output allows the LM540v2 to be within the 20Dbm legal broadcasting output.
- Bluetooth 2.1 + EDR firmware based design. Bluetooth 2.0 +EDR Compatible
- Optional Bluetooth 2.0 firmware available
- EOL (End of Life) will be 10 Years +.
- FCC, RoHS, BQB and RTTE certified with SIG and other certifications ongoing.

Overview

The LM540v2 has a wide range of uses due to the huge range of profiles the adapter can work with, its exceptional distance will allow users to connect at distances not available before now.

Other similar products use external power sources or are twice the size.

LM540v2's small overall footprint allows users to plug the adapter into a laptop without it being too bulky. users will be able to connect Bluetooth headsets at distances that were unobtainable before.

Making internet telephone calls up to 100m away from your notebook or PC.

The LM540v2 has also been fully tested with all of LM Technologies Bluetooth range and allows users to connect LM048 and LM058 series products directly to the LM540 at far greater distances than ever possible before.



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Packaging Options

SRP - Single Retail Pack
Part No 540-0545

1 x LM540-0542 Adapter
1 x LM251-1022 Antenna
1 x Retail Box

Single Adapter Bulk
Part No 540-0544

1 x LM540-0542 Custom Made.

AO - Adapter Only
Part No 540-0542

SRP - Single Retail Pack + IVT Key
Part No 540-0546

(Same as 540-0545 + 1 x IVT License Key).

Adapter + Antenna Bulk
Part No 540-0543

1 x LM540-0542
1 x LM251-1022

- User Guides, Manuals and Wicomm Configuration Software available to download via our website - <http://www.lm-technologies.com/support/downloads>

General Specification

Product Name	LM540v2
Chipset	CSR Bluecore 4 ROM
RF Output Power	Class 1
Transfer Rate (max)	Up to 3 Mbps enhanced data rate
Range	0-787 m with 2 dBi Antenna
I/O Interface	USB 2.0
Bluetooth Standard	Bluetooth v2.1 + EDR
Frequency Band	2.4 - 2.4835 GHz ISM Band
Frequency Hopping	1600 hops/sec, 1 MHz channel width
Modulation Method	GFSK for 1 Mbps, $\pi/4$ -DQPSK for 2 Mbps, 8-DPSK for 3 Mbps
Spread Spectrum	FHSS (Frequency Hopping Spread Spectrum)
Firmware	CSR Bluetooth 2.1 HCI ROM Image
Rx Sensitivity	< - 86 dBm typical
RF Output	+17.6 dBm
Antenna Gain	Max 2.3 dBi
Input Voltage	DV 5V (via USB port)
LED Indicator	Power / Active



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General Specification (continued)

OS Support	Win XP-8/OSX/Linux. IVT Bluesoleil Driver available. Win8 driver freely downloadable Operating Temperature : -20°C to +75°C
Environment	Storage Temperature: -40°C to +85°C
Size	50.00mm (L) x 27.00mm (W) x 18.5mm (H)
Software / Drivers	IVT Bluesoleil 8.0, Standard Windows, Linux and OSX Bluetooth Driver
Bluetooth Profiles	GAP, SPP, HSP, HFP, DUN, FTP, FAX, PAN, LAN, HID, SYNC, HCRP, A2DP, AVRCP, BIP, GOEP, SDAP, OPP
Certification	FCC, CE, RoHS

FCC Warning Statement

This device complies with Part 15 and 15C 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

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 and 15C 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.

Installation and use of this device must be in strict accordance with the instructions included in the user documentation provided with the product. Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment. The manufacturer is not responsible for any radio or television interference caused by unauthorized modification of this device, or the substitution of the connecting cables and equipment other than manufacturer specified. It is the responsibility of the user to correct any interference caused by such unauthorized modification, substitution or attachment. Manufacturer and its authorized resellers or distributors will assume no liability for any damage or violation of government regulations arising from failing to comply with these guidelines. This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.



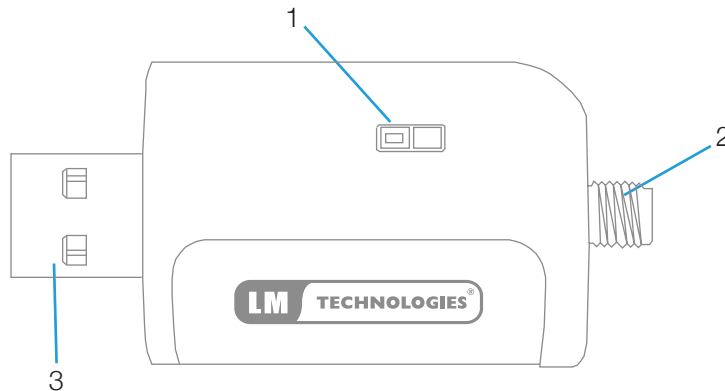
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Hardware Structure

- 1 LED Indicator.
- 2 Antenna RP-SMA Connector.
- 3 USB Connector.



LED Functions

LED Red

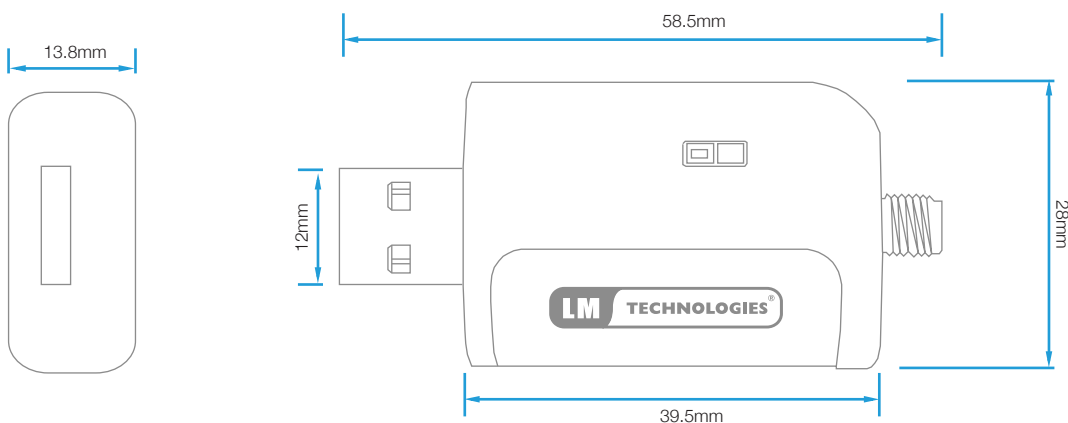
- LED is permanently on - Power on
- LED is off - Power off

LED Blue

- LED is flashing slow = Bluetooth is searching
- LED is permanently on = Bluetooth is connected

* Green LED will be added in a future update.

Dimensions





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Revision History

1.0	05/JAN/2011	First version with new layout
1.1	15/OCT/2013	1. Updated datasheet as per new Hardware revision LM540v2 2. Added FCC Warning Statement
1.2	16/DEC/2014	New Datasheet.
1.3	05/FEB/2015	Datasheet Updated.