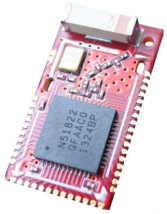
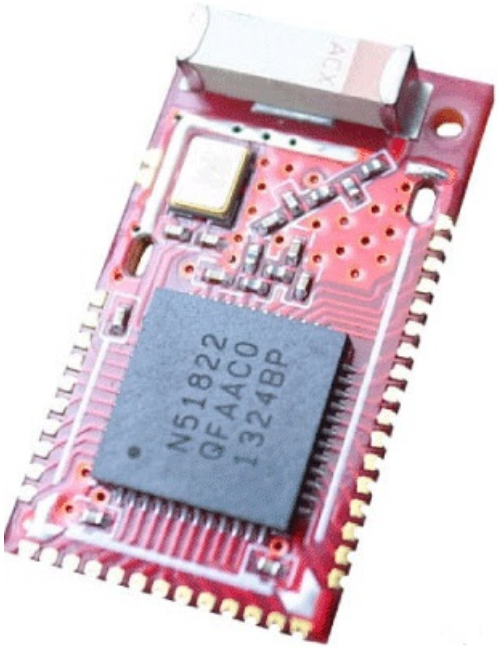


RAYTAC MDBT40-VE Bluetooth Module User Manual

Contents

RAYTAC MDBT40-VE Bluetooth Module



RAYTAC MDBT40-VE Bluetooth Module

Since this module is not sold to general end users directly, there is no user manual of module. For the details about this module, please refer to the specification sheet of module.
This module should be installed in the host device according to the interface specification.

installation procedure

The following information must be indicated on the host device of this module;

[for FCC]

Contains Transmitter Module FCC ID: 2A2XGMDBT40-VE

OR

Contains FCC ID: 2A2XGMDBT40-VE

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.

[for IC]

Contains IC: 27461- MDBT40VE

Specification and operating conditions

Symbol	Parameter	Min.	Max.	Unit
Supply voltages				
VDD		-0.3	+3.9	V
DEC2			2	V
VSS			0	V
I/O pin voltage				
VIO		-0.3	VDD + 0.3	V
Environmental QFN48 package				
Storage temperature		-40	+125	°C
MSL	Moisture Sensitivity Level		2	
ESD HBM	Human Body Model		4	kV
ESD CDM	Charged Device Model		750	V
Flash memory				
Endurance		20 000[1]		write/erase cycles
Retention		10 years at 40 °C 50 years at 25 °C		
Number of times an address can be written between erase cycles			2	times

1. Flash endurance is 20,000 erase cycles. The smallest element of flash that can be written is a 32 bit word.

Symbol	Parameter	Notes	Min.	Typ.	Max.	Units
VDD	Supply voltage, internal LDO setup		1.8	3.0	3.6	V
VDD	Supply voltage, DC/DC converter setup		2.1	3.0	3.6	V
VDD	Supply voltage, low voltage mode setup	1	1.75	1.8	1.95	V
t_{R_VDD}	Supply rise time (0 V to VDD)	2			100	ms
T_A	Operating temperature		-25	25	75	°C

The following statements must be described on the user manual of the host device of this module;

For FCC

FCC CAUTION
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines. This equipment has very low levels of RF energy that is deemed to comply without maximum permissive exposure evaluation (MPE).

For IC

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

1. This device may not cause interference; and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

This radio transmitter (IC:27461- MDBT42QVE) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

This radio transmitter (IC:27461- MDBT40VE) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.
Antenna type: PCB Gain:-3.7767dBi

The radiated output power of the Wireless Device is below the Innovation, Science and Economic Development Canada radio frequency exposure limits. The Wireless Device should be used in such a manner such that the potential for human contact during normal operation is minimized.
This device has also been evaluated and shown compliant with the IC RF Exposure limits under portable exposure conditions. (antennas are less than 20 cm of a person's body).

FCC warning statement

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT
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.

CAUTION:
Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.
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.

RF exposure warning
The modular complies with FCC RF exposure limits set forth for an uncontrolled environment. The equipment must not be co-located or operating in conjunction with any other antenna or transmitter.

End Product Labeling
If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains FCC ID: 2A2A6MDBT40-VE" and "Contains IC:

27461- MDBT40VE “

Information for the OEMs and Integrators

The following statement must be included with all versions of this document supplied to an OEM or integrator, but should not be distributed to the end user.

1. This device is intended for OEM integrators only.
2. Please see the full Grant of Equipment document for other restrictions.

ISED warning statement

Canada, Innovation, Science and Economic Development Canada (ISED) Notices
This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada’s licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Radio Frequency (RF) Exposure Information

The radiated output power of the Wireless Device is below the Innovation, Science and Economic Development Canada radio frequency exposure limits. The Wireless Device should be used in such a manner such that the potential for human contact during normal operation is minimized.
This device has also been evaluated and shown compliant with the IC RF Exposure limits under portable exposure conditions. (antennas are less than 20 cm of a person’s body).

Documents / Resources

	RAYTAC MDBT40-VE Bluetooth Module [pdf] User Manual MDBT40-VE, MDBT40VE, 2A2XGMDBT40-VE, 2A2XGMDBT40VE, MDBT40-VE, Bluetooth Module, MDBT40-VE Bluetooth Module