

User Manual

PRODUCT NAME : Blue Adapter

MODEL NAME : ETGBBTBP01

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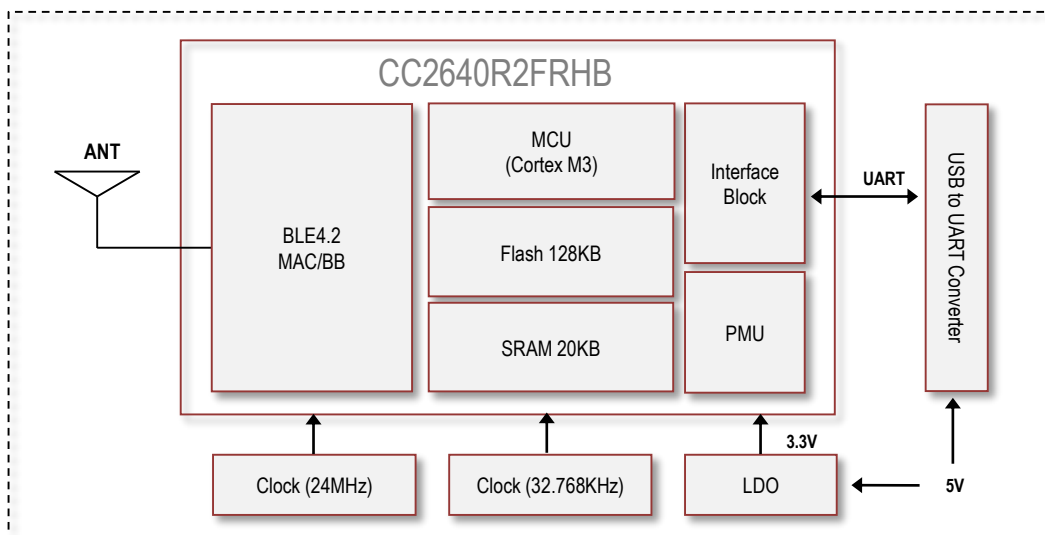
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1. Features

ETGBBTBP01 is the Bluetooth Low Energy 4.2 USB Dongle with PCB Printed Antenna. ETGBBTBP01 is based on TI CC2640R2FRHB solution.

- ARM® Cortex®-M3, 32bit, 48MHz clock Speed
- 275KB of Nonvolatile Memory Including 128KB of In-system Programmable Flash
- Up to 28KB of System SRAM, of Which 20KB is Ultra-Low Leakage SRAM
- 8KB of SRAM for Cache or System RAM Use.
- Integrated 2.4GHz Antenna
- Supported data rates 1Mbps, 2Mbps Bluetooth® low energy mode
- Support USB Interface with USB to UART Converter IC
- Size: 70.0 x 21.7 x 10.0 mm³(USB Dongle)
- Application: Health care and Medical, Connected Appliances

2. Block Diagram



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3. Absolute Maximum Ratings

Parameter	Min	Max	Unit
Storage Temperature	-40	+100	°C
Storage Humidity (@ 40°C)	-	90	%

Caution : The specifications above the Table define levels at which permanent damage to the device can occur. Function operation is not guaranteed under these conditions. Operating at absolute maximum conditions for extend periods can adversely affect the long-term reliability of the device.

- Other conditions

- 1) Do not use or store modules in the corrosive atmosphere, especially where chloride gas, sulfide gas, acid, alkali, salt or the like are contained.
Also, avoid exposure to moisture.
- 2) Store the modules where the temperature and relative humidity do not exceed 5 to 40°C and 20 to 60%.
- 3) Assemble the modules within 6 months.
Check the soldering ability in case of 6 months over.

4. Operating Test Conditions

Parameter	Min	Typ	Max	Unit
Operating Temperature	5	-	+50	°C
Operating Humidity (40°C)	-	-	85	%
Supply Voltage	4.75	5.0	5.25	Vdc

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5. Electrical Characteristics

5-1. RF Characteristics (Conducted Test)

PARAMETER		TEST CONDITIONS	MIN	TYP	MAX	UNIT
Receiver sensitivity	1 Mbps	Packet length<=37 bytes, BER=0.1%	-	-93	-80	dBm
	2 Mbps	Packet length<=37 bytes, BER=0.1%	-	-91	-80	
Maximum received signal strength		Maximum received signal strength at < 0.1% BER	-10	-2	-	dBm
Maximum output power		Conducted Test	-3.0	-1.5	0	dBm
Modulation Characteristics	1 Mbps	delta F1 average	225	-	275	kHz
		ratio(delta F2/delta F1)	80	-	-	%
	2 Mbps	delta F1 average	450	-	550	kHz
		ratio(delta F2/delta F1)	80	-	-	%
Carrier frequency offset and drift	1 Mbps	f[n]	-	-	150	kHz
		f0 -fn	-	-	50	kHz
Carrier frequency offset and drift	2 Mbps	f[n]	-	-	150	kHz
		f0 -fn	-	-	50	kHz

* Normal Condition : 25°C, VDD=5V.

* RF characteristics is board limit. It can differ according to standards

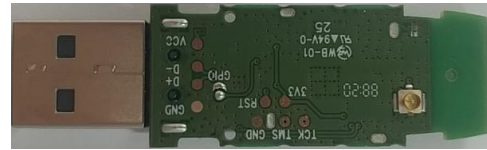
6. Pin Description

Pin No.	Pin Name	I/O	Pin Description
1	VDD	I	VDD 5.0V
2	UART Rx	I	UART Communication signal line
3	UART Tx	O	UART Communication signal line
4	GND	-	GND

< TOP View >



< Bottom View >



7. Outline Drawing

1) Module

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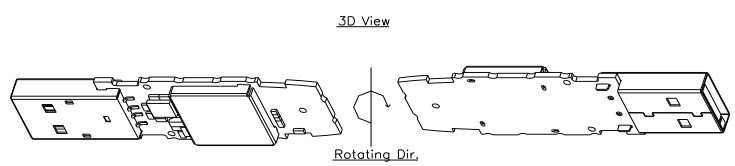
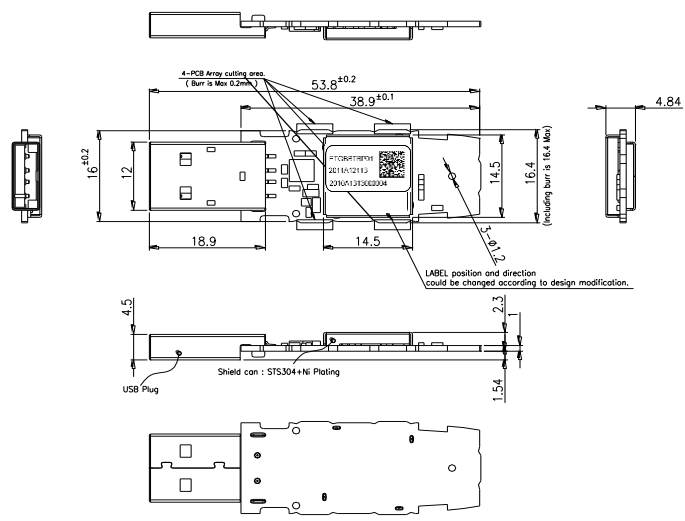
Secret Level 1

DIMENSIONAL TOLERANCE		C H A N G E S	REV. NO.	DATE (YY MM DD)	SIGNATURE	CHANGE CONTENTS
~ up to 6	±0.3					
over 6 up to 30	±0.5					
over 30 up to 120	±0.5					
UNLESS OTHERWISE SPECIFIED						

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- Notes
1. Tolerances are ±0.3, Radii are 0.5, unless otherwise specified.
 2. Lot No. shall be conformed to LGIT standard specification.
 3. As long as the outer appearance doesn't affect the performance of the product, it can be changed without prior notice.
 4. '[X.XX]' these dimensions inside of the square are cutting area.
 5. PCB Warpages are max. 0.15mm.

A	RELATED P/N		SCALE	UNIT	DESIGN	TITLE
			1:1	mm	CHECKED	After routing assy
					APPROVED	PART NO
						MODEL
						ETGBBTBP01
						DWG NO

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2) Case

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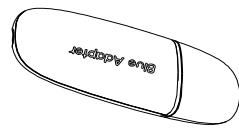
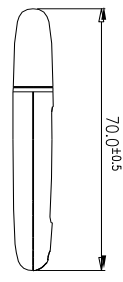
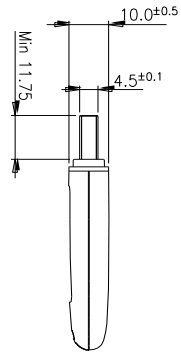
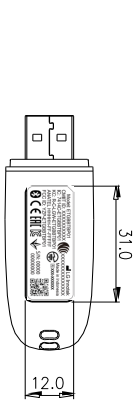
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DIMENSIONAL TOLERANCE	
~ up to 6	±0.1
over 6 up to 30	±0.1
over 30 up to 120	±0.2
over 120 up to 400	±0.5
over 400 up to 1000	±0.8
over 1000 up to 2000	±1.2

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PART NO	RELATED P/N	DESCRIPTION	DESIGN	MATERIAL	TITLE	FINISH	NOTE
		SCALE UNIT 1 : 1 mm	DESIGN "20.09.23" Kop soul Lee		Outline Drawing		
		THIRD ANGLE PROJECT	CHECKED "20.09.23" Kyoung Ho Cho.		PART NO		
			APPROVED "20.09.23" Seok dong Cho.		MODEL	ETGBBTBP01	



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.FCC/ISED Statement

- FCC Part 15.19

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.

- FCC Part 15.105

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.

- FCC Part 15.21

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This device must not be co-located or operating in conjunction with any other antenna or transmitter.

- RF Exposure

The device has been evaluated to meet general RF Exposure requirement.

The device can be used in portable exposure conditions without restriction.

- Responsible Party

LG Innotek USA Inc.

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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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

- RF Exposure

The device has been evaluated to meet general RF Exposure requirement.

The device can be used in portable exposure conditions without restriction.

- Exposition RF

L'appareil a été évalué pour répondre aux exigences générales en matière d'exposition aux RF.

L'appareil peut être utilisé dans des conditions d'exposition portatives sans restriction.