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		Document version	1.0
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1 Purpose

The purpose of the document to describe the integration of GCY 300-42 into a host product.


2 Application for the module

For integration in products of Robert Bosch Power Tools GmbH.

3 Description of the module

3.1 General information

Bluetooth® Low Energy Module		GCY 300-42
Article number		1619P15930
Operating temperature		-20 °C to +50 °C
Storage temperature		-20 °C to +70 °C
Dimensions		37 x 28 x 10.5 mm
Weight according to EPTA-Procedure 01:2014		0.02kg
Data Transmission		
<i>Bluetooth®</i>		<i>Bluetooth® 4.2 (Low Energy)^{A)}</i>
Signal range		Max. 30m ^{B)}
Frequency range used		2400–2483.5 MHz
Output power		< 1 mW
Internal Power Supply		
Battery		Coin cell (3V lithium battery, CR2450)
Battery life approx.		5 years
External Power Supply		
Vcc from Tool Electronics		5V
Tool Requirements		
Tool Battery Pack Voltage		Max. 42V
Connector	VCC	5V
	GND	GND
	BUS	115.2Kbps Baud STB communication
	VSYS	Max. 42V

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	WUP	10ms-500ms impulse
APP Requirements		
APP	Bosch ToolBox	
Mobile device (tablet, smartphone)	Android 5.1 (and newer)	
	iOS 10 (and newer)	
HW Version	01.01.06	
SW Version	02.06.00	

3.2 Physical dimension

Refer to drawing no. 1619P15930

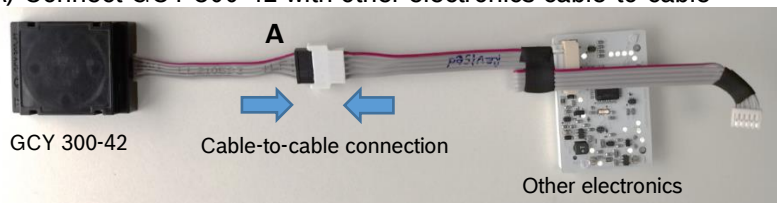
3.3 Performed tests / conditions of use

Refer to test plan "Test Plan_GCY 300-42 V1.4_20210323".

4 Physical integration into the host product

4.1 Installation description

A) Connect GCY 300-42 with other electronics cable-to-cable

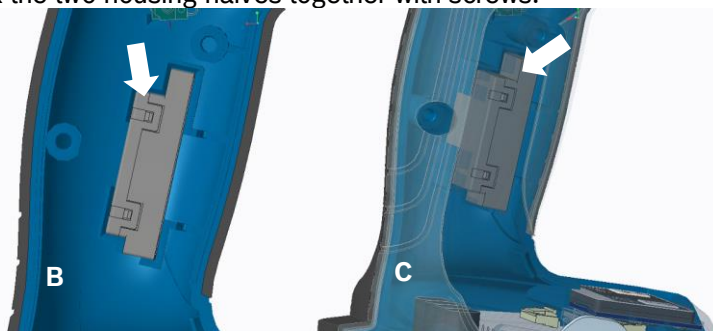


Picture 1: Connection of GCY 300-42 with host product electronic


B) Assemble GCY 300-42 in host product housing half where it is fixed by ribs

C) When everything is assembled close with the other housing half

D) Fix the two housing halves together with screws.



Picture 2: Assembly in host product housing


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4.2 Installation notes

There is no radio connection between GCY 300-42 and another electronic in the host product. The GCY 300-42 will communicate with the host product via the internal BUS line.

Concerning the RF performance of GCY 300-42, placing is significantly important, please respect the following suggestion.

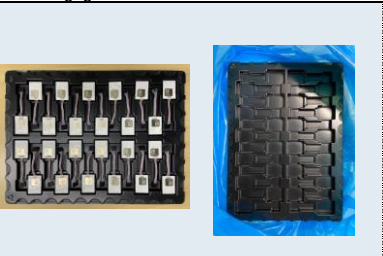
- A) There should not be any ground directly below the GCY 300-42 or near the antenna part of GCY 300-42.
- B) Allow no metal in the antenna near field of GCY 300-42, since GCY 300-42 antenna is an omnidirectional antenna, metal part could affect the radiation direction and performance.
- C) The GCY 300-42 should not be covered completely by a metallic enclosure, if the product has a metallic casing or shield, the casing should not cover the antenna part.
- D) Please ensure the plastic enclosure (e.g. Power tool housing) is nonmetallic near the antenna.
- E) Please place GCY 300-42 as far as possible from the motor, since the magnetic field of the motor will affect the RF performance and it may cause electromagnetic field blocking.
- F) The orientation of the antenna should be in line with the final product orientation so that radiation is maximized in the desired direction. The polarization and position of the receiving antenna should be taken into account to orient the module in a way that maximum radiation occurs, regarding to the antenna radiation direction, please refer to GCY 300-42 antenna pattern.
- G) The GCY 300-42 team highly recommends to do the antenna pattern measurement before deciding the final placing position. The antenna pattern for the whole product will help you to visualize if the chosen direction has maximum RF performance or not.
- H) Keep any components that may radiate noise or signal within the 2.4GHz to 2.5GHz frequency band far away from the GCY 300-42. Any noise radiated from e.g. the tool PCBA in this frequency band will degrade the sensitivity of the GCY 300-42.

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5 Packaging


The module will be delivered in master box, and inner packaging is with ESD protection.

Inner Packaging

Inner Packaging		Inner Packaging Picture			
Mode of Packaging	One-way				
Type of Packaging	tray				
Packmaterial Number	1				
Material Type	PET				
Qty of Parts per Package	24				
Max. Outer Dimensions (mm) (L * W * H)	280 * 380 * 18				
Gross Weight (kg)	0.49				
ESD Protection?	yes			Range:	10 ⁴ -5-10 ⁹

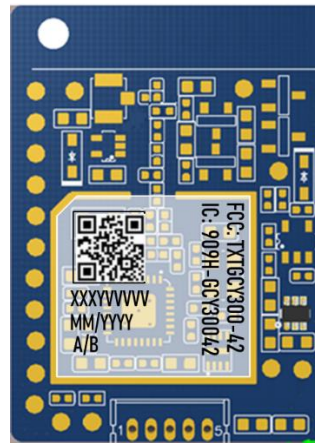
Outer Packaging

Outer Packaging		Outer Packaging Picture	
Mode of Packaging	One-way		
Type of Packaging	--- Bitte auswählen ---		
Packmaterial Number			
Material Type	Triple Wall		
	Comp. Strength		
Qty of Parts per Package	480 (24pcs/layer * 20 layers)		
Max. Outer Dimensions (mm) (L * W * H)	400 * 300 * 280		
Gross Weight (kg)	10.5		
ESD Protection?	no		

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6 Regulatory information

Certification symbols and numbers will be on the module. The layout refer the below pictures.



6.1 CB

6098824.50_NL-74366
6098824.50A-IECTRF
6098824.50B-IECTRF

6.2 BQB

5400640.01Rev01_BT RF Test Report_BOSCH - Official

6.3 FCC for US

FCC ID: TXTG300-42

Rating label of host product

In any case the end product must be labelled exterior with "Contains FCC ID: TXTG300-42"


Manual of host product

Following sentences need to be in user manual of host product which uses GCY 300-42.

For FCC:

"Changes or modifications not expressly approved by the manufacturer 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."

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6.4 Industry Canada Certification

IC ID: 909H-GCY30042

Rating label of host product

In any case the end product must be labelled exterior with "Contains IC: 909H-GCY30042"

Manual of host product

Following sentences need to be in user manual of host product which uses GCY 300-42.

For IC: "This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not interference, and (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."

6.5 Japan

Rating label of host product

In any case the end product must be labelled exterior with GITEKI mark, min 3mm, and the certification number to be updated when available.

7 Revision history

Version No.	Changes	Date of Version	Author/Revisor
1.0	Initial version	2021/07/29	Yu Lei, Neumann