USER MANUAL

WIRELESS RF DEVICE

2.4G RF Module_BL08

TRK-RF-08

FCC ID: SUFTRKRF08
IC: 5663A-TRKRF08

REVISION 2.0

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i) Notice

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Screen displays, operating procedures and supporting features might vary with different software version releases.

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ii) Safety Information

The operator of the equipment shall comply with the safety and warning indications and procedures outlined in this document. DIGI Singapore Pte Ltd assumes no responsibility or liability for failure to comply with these requirements.

- For continued protection against fire hazard replace only with battery of same rating and type.
- Avoid overloading the product beyond its rated maximum capacity
- Trained and qualified personnel shall only carry out repair and servicing of product.

Disclaimer:

Specifications are subject to change without notice. All dimensions shown are approximate. Please be aware that DIGI Singapore has indicated that its hardware and software used in the product may require additional updates in the future as our product is continually under development. The need for such updates most likely applies to the Printer software.

iii) Safety Regulations



Federal Communication 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 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.

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 Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated at a minimum distance 20cm between the radiator & your body.

This device is intended only for OEM integrators under the following conditions:

1) The antenna must be installed such that 20 cm is maintained between the antenna and users, and
2) The transmitter module may not be co-located with any other transmitter or antenna,

As long as condition above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

IMPORTANT NOTE: In the event that these conditions do not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID could not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

End Product Labeling
The final end product must be labeled in a visible area with the following: “Contains FCC ID: SUFTRKRF08”.

Manual Information To the End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user’s manual of the end product which integrates this module.
The end user manual shall include all required regulatory information/warning as show in this manual.

Canada Regulatory Wireless Notice:

This device complies with Industry Canada licence-exempt RSS standard(s). 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

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) le dispositif ne doit pas produire de brouillage préjudiciable, et
2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable

IC Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

This device is intended only for OEM integrators under the following conditions:

1) The antenna must be installed such that 20 cm is maintained between the antenna and users, and
2) The transmitter module may not be co-located with any other transmitter or antenna.

As long as condition above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

Cet appareil est conçu uniquement pour les intégrateurs OEM dans les conditions suivantes: (Pour utilisation de dispositif module)

1) L'antenne doit être installée de telle sorte qu'une distance de 20 cm est respectée entre l'antenne et les utilisateurs,et

2) Le module émetteur peut ne pas être coïmplanté avec un autre émetteur ou antenne.

Tant que les condition ci-dessus sont remplies, des essais supplémentaires sur l'émetteur ne seront pas nécessaires. Toutefois, l'intégrateur OEM est toujours responsable des essais sur son produit final pour toutes exigences de conformité supplémentaires requis pour ce module installé

IMPORTANT NOTE: In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the IC authorization is no longer considered valid and the IC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate IC authorization.

NOTE IMPORTANTE:

Dans le cas où ces conditions ne peuvent être satisfaites (par exemple pour certaines configurations d'ordinateur portable ou de certaines co-localisation avec un autre émetteur), l'autorisation du Canada n'est plus considéré comme valide et l'ID IC ne peut pas être utilisé sur le produit final. Dans ces circonstances, l'intégrateur OEM sera chargé de réévaluer le produit final (y compris l'émetteur) et l'obtention d'une autorisation distincte au Canada.

End Product Labeling

The final end product must be labeled in a visible area with the following: “Contains IC: 5663A-TRKRF080”.

Plaque signalétique du produit final

Le produit final doit être étiqueté dans un endroit visible avec l'inscription suivante: "Contient des IC: 5663A-TRKRF08".

Manual Information To the End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user’s manual of the end product which integrates this module.
The end user manual shall include all required regulatory information/warning as show in this manual.

Manuel d'information à l'utilisateur final

L'intégrateur OEM doit être conscient de ne pas fournir des informations à l'utilisateur final quant à la façon d'installer ou de supprimer ce module RF dans le manuel de l'utilisateur du produit final qui intègre ce module.
Le manuel de l'utilisateur final doit inclure toutes les informations réglementaires requises et avertissements comme indiqué dans ce manuel.

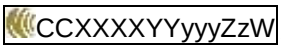
NCC BT警語:

取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前述合法通信，指依電信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

IMPORTANT NOTE:

1. 本模組於取得認證後將依規定於模組本體標示審驗合格標籤

2. 系統廠商應於平台上標示「本產品內含射頻模組:  」字樣

1. General

The module design is based on RF transceiver with an integrated MCU core, A8131ZM0. It implements a proprietary communications protocol streamlined to lower cost and power consumption. The antenna used is a SMA antenna. The module will be FCC certified for fast and simple integration into end applications. This module may be integrated into a wireless application that operates in 2.4G ISM frequency band.

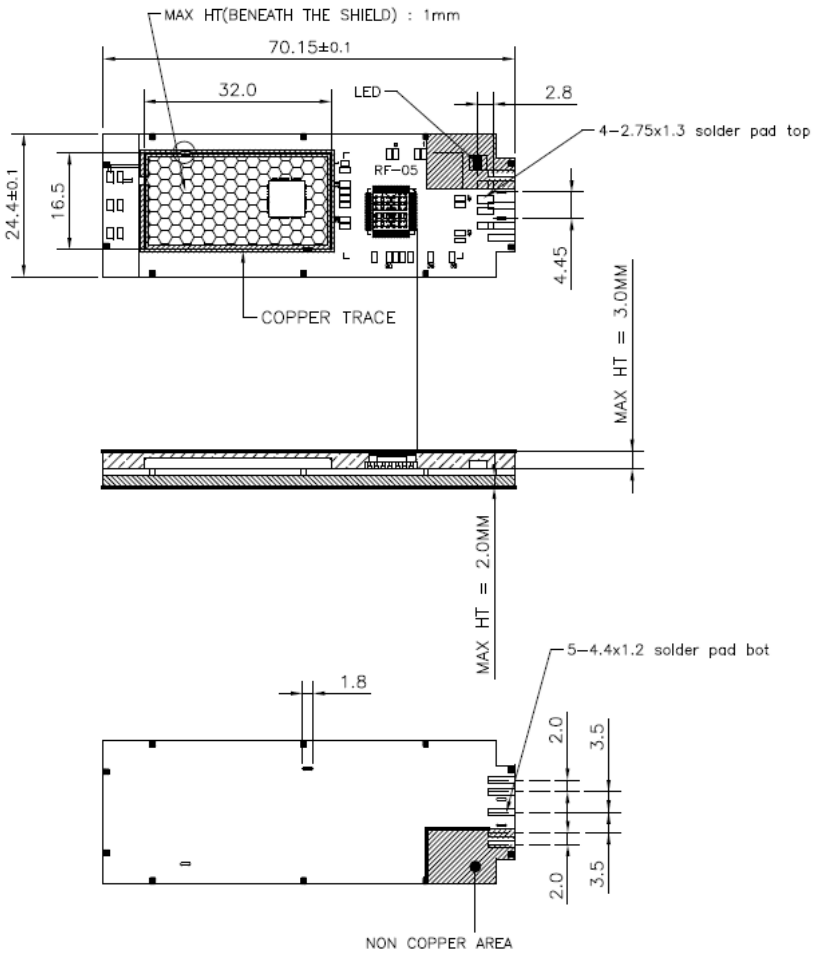
1.1 Product Features

Model	:	TRK-RF-08 (2.4G RF MODULE_BL08)
Dimension (in mm)	:	70.2(L) X 24.4(W) X 3.0(H)
RF Standard	:	FCC, NCC, IC
Modulation	:	GFSK
Frequency Band	:	2.402 GHz – 2.478 GHz
Channel list	:	77 Channels at 1MHz step 2402MHz + (n-1) MHz where n = 1 to 77
Radio Range	:	Up to 100m, L.O.S
Transmit Power (EIRP)	:	9.74dBm (max)
Receiver Sensitivity	:	-90dBm (typical), PER = 1%
General purpose I/O	:	4

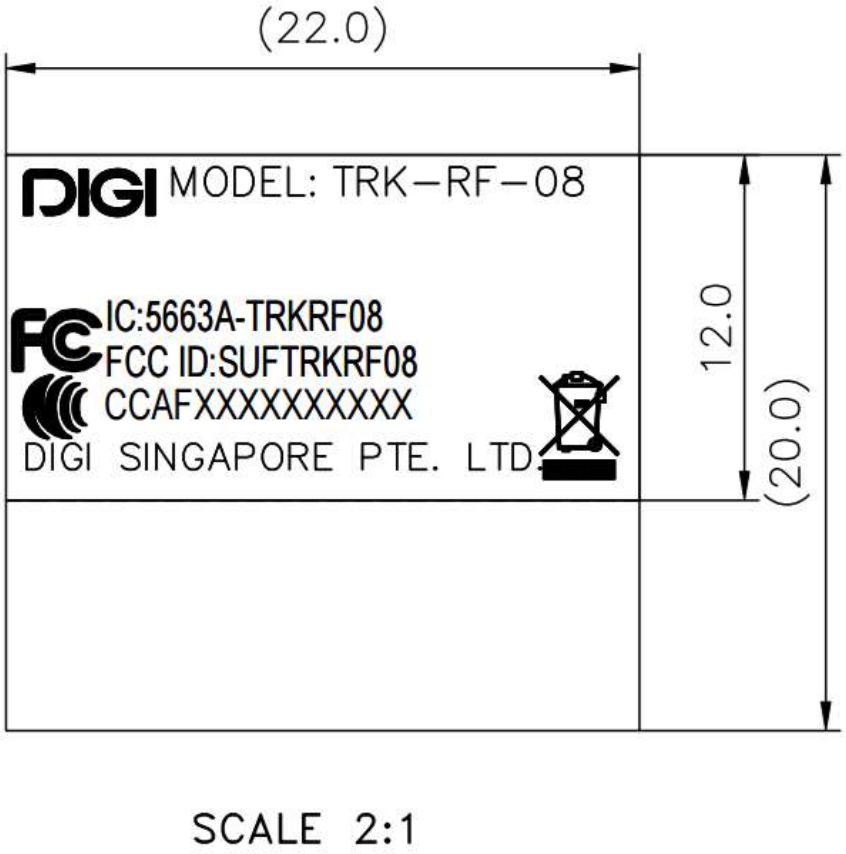
1.2 Operating Specification

Voltage	:	DC 5.0V
Current	:	130mA TX mode,
Operating Temperature	:	-20 °C to 40 °C
Storage Temperature	:	-40 to +85° C
Humidity	:	95% max non condensing

2 Dimension


MAX HT(BENEATH THE SHIELD) : 1mm
70.15±0.1
32.0
LED
2.8
4-2.75x1.3 solder pad top
RF-05
24.4±0.1
16.5
4.45
COPPER TRACE
MAX HT = 3.0MM
MAX HT = 2.0MM
5-4.4x1.2 solder pad bot
1.8
2.0
3.5
2.0
3.5
NON COPPER AREA

3. Label Information



4. Interface

Interface pin assignments

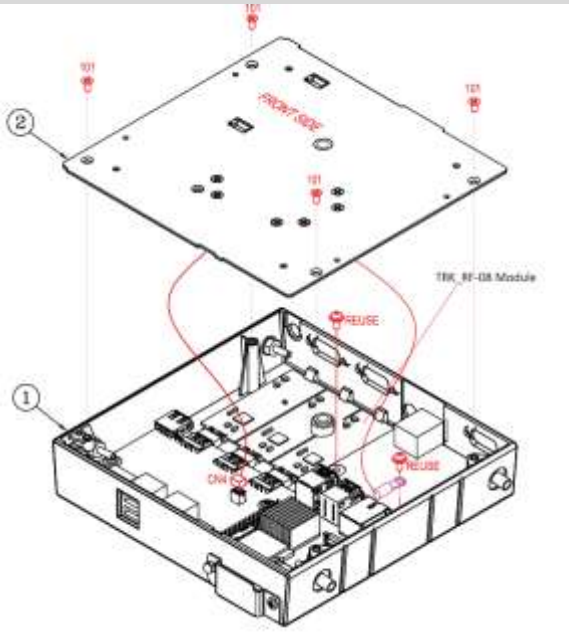
1	VDD		
2	D-		
3	D+		
4	GND		

Notes:

1. The I/O pins is connected to the external interface port directly
2. The voltage level is TTL high/low voltage level.

5. Warning

TRK-RF-08 (2.4G RF MODULE_08) with FCC ID: SUFTRKRF08; IC:5663A-TRKRF08 is developed only with intention to integrate into DIGI's products like RF Transmitter eg model: IB-3700 PLUS as below Illustration.



This module needs specific driver under Linux platform which is developed by DIGI. The driver code developed can only be deployed to DIGI product example IB-3700 PLUS.

DIGI acknowledges and notices that this module must only be used with devices that operated at a minimum distance 20cm between the radiator and human.

Otherwise, SAR testing and certification are required.

5. Revision Records

Serial No.	Date	Edition Status	Description of Changes	Software Version	Remarks
1	16/10/2024	1.0	INITIAL RELEASE		
2	14/02/2025	2.0	ADD WARNING		