

User Manual UWBTRPHA02

rev. 2

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Committente:

AME

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1. USA-FCC

FCC ID : UKOUWBTRPHA02

1.1. Scope

This radio module is designed to be integrated into host devices and complies with FCC Rules. This manual contains the basic instructions for safe installation and use. It must be read carefully in its entirety.

1.2. Technical Specifications

Input Voltage Max: 24 Vdc Max

VBAT Max: 8.4 Vdc

Operating frequency: 3774-4243.2 MHz or 6240 – 6739.2 MHz

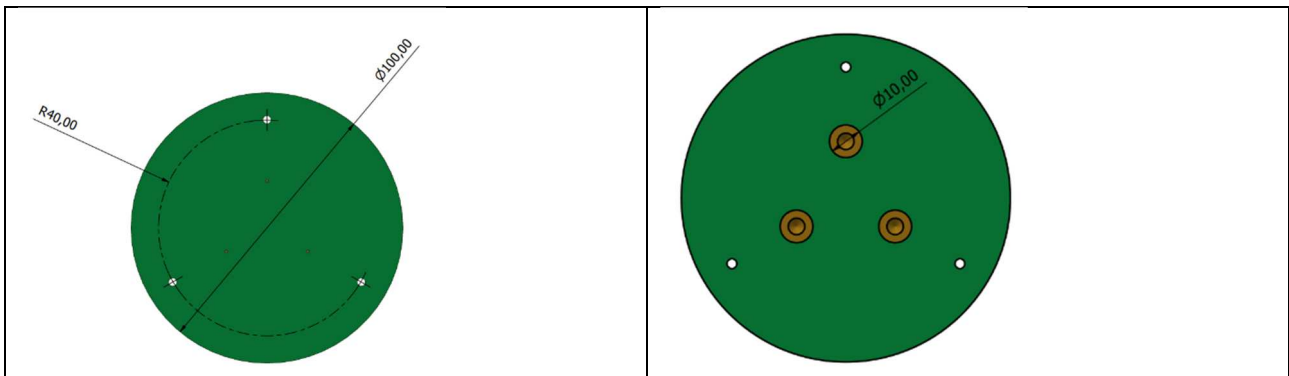
Transmission power: -41 dBm/MHz

Operation temperature: -20 ° C - +60° C

Storage temperature : -40 ° C - +85° C

Antenne: Integrated

Dimensions : (Diameter Ø x height H.) Ø 100mm x H 21,1mm



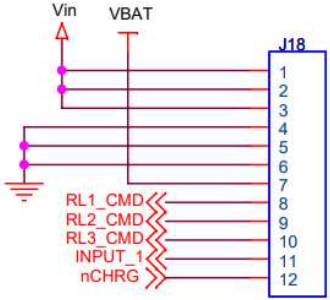
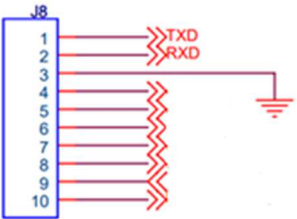
1.3. Software on board

The module comes pre-loaded with embedded firmware which provides two-way ranging (TWR) and real time location system (RTLS) functionality.

The module can be configured and controlled via its API, which can be accessed through several different interfaces, ask to A.M.E. for further information.

1.4. Installation Instructions

1. Make sure the host device is powered off before installing the module.
2. Connect the module to the designated port on the host device. See diagrams below for Power Supply, input and output communication.

	Vin	Power Supply	24Vdc
	VBAT	Battery power supply	8.4Vdc
	RL _i	Digital Out	0-3.3V
	Input_1	Digital in	0-3.3V
	nCHRG	input status Battery	3.3V
	Digital communications		

3. Follow the host device instructions to set up the radio module.

Warnings!!

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

The BLE communication is not active, its use is intended only for factory production.

UWB devices may not be employed for the operation of toys. Operation onboard an aircraft, a ship or a satellite is prohibited.

Antennas mounted on outdoor structures such as antennas mounted on the outside of a building or on a telephone pole, or any fixed outdoors infrastructure are prohibited for use with this device.

1.5. Compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:



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1. This device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by A.M.E. srl could void the user's authority to operate the equipment.

1.6. RF Radiation Exposure Statement

This product is approved for portable use and complies with FCC radiation exposure limits set forth for an uncontrolled environment regardless of separation distance.

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures

1.7. End Product Labelling

The UWBTRPHA02 modules are labelled with their own FCC ID. In all those cases when the FCC ID is not visible after 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. In that case, the final end-product must be labelled in a visible area with the following: "Contains Transmitter Module FCC ID: UKOUWBTRPHA02"

1.8. OEM Responsibilities to comply with FCC Regulations

This module has been tested for compliance to FCC Part 15C, §15.250 and to FCC Part 15F.

OEM integrators are responsible for testing their end-product for any additional compliance requirements needed with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

Additionally, investigative measurements and spot checking are strongly recommended to verify that the full system compliance is maintained when the module is integrated, even with a module having a full modular approval, in accordance to the "Host Product Testing Guidance" in FCC's KDB 996369 D04 Module Integration Guide V01.

- General Considerations

This transmitter module is tested as a subsystem and its certification does not cover the FCC Part 15 Subpart B (unintentional radiator) rule requirement, which is applicable to the final host. The final host will need to be assessed for compliance to this portion of rule requirements, if applicable.

- 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, or how to change RF related parameters, in the user's manual of the end-product which integrates this module.

The end user manual shall include all required regulatory information/warnings as shown in this manual.

- **Host Manufacturer Responsibilities**

Host manufacturers are ultimately responsible for the full compliance of the host system. The final product must be reassessed against all the essential requirements of the FCC rule such as FCC Part 15 Subpart B before it can be placed on the US market. This includes reassessing the transmitter module for compliance with the Radio and EMF essential requirements of the FCC rules. This module must not be incorporated into any other device or system without retesting for compliance as multi-radio and combined equipment.

- This transmitter module is tested in a standalone mobile RF exposure condition, and in case of any co-located radio transmitter being allowed to transmit simultaneously, or in case of portable use at closer distances from the human body than those allowing the exceptions rules to be applied, a separate additional SAR evaluation will be required, ultimately leading to a Class II Permissive Change, or more rarely to a new grant.
- Important Note: In the event that these conditions cannot be met, then for the FCC authorization to remain valid the final product will have to undergo additional testing to evaluate the RF exposure, and a permissive change will have to be applied. The evaluation (SAR) is in the responsibility of the end-product's manufacturer, as well as the permissive change that can be carried out with the help of the customer's own Telecommunication Certification Body typically acting as the grant holder's agent.

2. Canada-ISED

IC: 33792-UWBTRPHA02

2.1. Responsible party's contact located in the Canada:

Contact name: Ben Tidwell

Company Name: +1 Compliance LLC

Company Number: 31540

Address: 2967 Dundas St. W. #1337 Toronto, ON M6P 1Z2

Tel No.: +1 (940) 597-3767

Email: contact@1compliant.com

2.2. Scope / Portée

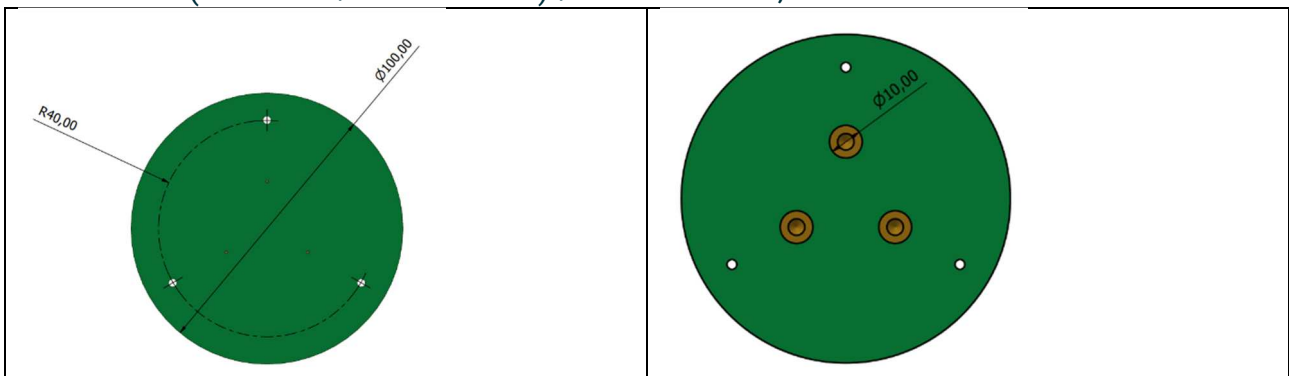
This radio module is designed to be integrated into host devices and complies with ISSED Rules. This manual contains the basic instructions for safe installation and use. It must be read carefully in its entirety.

Ce module radio est conçu pour être intégré dans des appareils hôtes et est conforme aux règles de la ISSED. Ce manuel contient les instructions de base pour une installation et une utilisation en toute sécurité. Il doit être lu attentivement dans son intégralité.

2.3. Technical Specifications / Spécifications techniques

Input Voltage Max: 24 Vdc Max
VBAT Max: 8,4 Vdc
Operating frequency: 3774-4243.2 MHz or 6240 – 6739.2 MHz
Transmission power: -41 dBm/MHz
Operation temperature: -20 ° C - +60° C
Storage temperature : -40 ° C - +85° C
Antenne: Integrated
Dimensions : (Diameter Ø x height H.) Ø 10cm x H 26.6cm

Tension d'entrée max.: 24 Vcc max.
VBAT Max: 8,4 Vcc
Fréquence de fonctionnement : 3774-4243,2 MHz ou 6240 – 6739,2 MHz
Puissance de transmission: -41 dBm/MHz
Température de fonctionnement : -20 °C - +60 °C
Température d'entreposage : -40 °C - +85 °C
Antenne: Intégrée
Dimensions: (Diamètre Ø x hauteur H.) Ø 10mm x H 21,1mm



2.4. Software on board / Logiciels embarqués

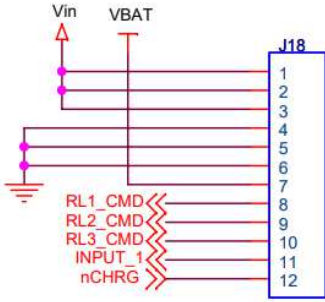
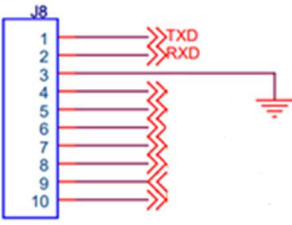
The module comes pre-loaded with embedded firmware which provides two-way ranging (TWR) and real time location system (RTLS) functionality.

The module can be configured and controlled via its API, which can be accessed through several different interfaces, ask to A.M.E. for further information.

*Le module est livré préchargé avec un micrologiciel intégré qui fournit une fonctionnalité de télémétrie bidirectionnelle (TWR) et de système de localisation en temps réel (RTLS).
Le module peut être configuré et contrôlé via son API, accessible via plusieurs interfaces différentes, demandez à A.M.E. pour plus d'informations.*

2.5. Installation Instructions / Instructions d'installation

1. Make sure the host device is powered off before installing the module.
1. Assurez-vous que l'appareil hôte est hors tension avant d'installer le module.
2. Connect the module to the designated port on the host device. See diagrams below for Power Supply, input and output communication.
2. Connectez le module au port désigné sur le périphérique hôte. Voir les schémas ci-dessous pour l'alimentation, communication d'entrée et de sortie.

	Vin	Power Supply	24Vdc
	VBAT	Battery power supply	8.4Vdc
	RL _i	Digital Out	0-3.3V
	Input_1	Digital in	0-3.3V
	nCHRG	Input status Battery	3.3V
	Digital communications		

3. Follow the host device instructions to set up the radio module.
3. Suivez les instructions de l'appareil hôte pour configurer le module radio.

Warnings!!

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

Tout changement ou modification non expressément approuvé par la partie responsable de la conformité pourrait annuler le droit de l'utilisateur à utiliser l'équipement.

The BLE communication is not active, its use is intended only for factory production.
La communication BLE n'est pas active ; son utilisation est réservée à la production en usine.

UWB devices may not be employed for the operation of toys. Operation onboard an aircraft, a ship or a satellite is prohibited.

*Les appareils UWB ne peuvent pas être utilisés pour faire fonctionner des jouets.
L'utilisation à bord d'un avion, d'un navire ou d'un satellite est interdite.*

Antennas mounted on outdoor structures such as antennas mounted on the outside of a building or on a telephone pole, or any fixed outdoors infrastructure are prohibited for use with this device.

Les antennes montées sur des structures extérieures, telles que celles installées à l'extérieur d'un bâtiment ou sur un poteau téléphonique, ou toute infrastructure extérieure fixe, sont interdites avec cet appareil.

2.6. Compliance / Conformité

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.

L'émetteur/recepteur exempt de licence contenu dans le present appareil est conforme aux CNR d'Innovation, Sciences et Développement économique 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.*
2. *L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement du dispositif.*

ICES-003 Class B Notice - Avis NMB-003 Classe B:
This Class B digital device complies with Canadian ICES-003.

Cet appareil numérique classe B est conforme à la norme NMB-003 du Canada.
CAN ICES-3(B) / NMB-3(B)

2.7. OEM Responsibilities for Compliance with IC Regulations/ Responsabilit  s des OEM pour une mise en conformit   avec la r  glementation IC

The module has been certified for integration into products only by OEM integrators under the following conditions:

- The antenna must be installed so as to maintain a minimum separation distance, as specified above, between the radiator (antenna) and all persons.
- The transmitter module must not be located or operating in conjunction with any other antenna or transmitter.

Important Note: If these conditions cannot be met, the final product must undergo additional testing to assess RF exposure to maintain the ISED authorization, and a permissive modification must be applied using the customer's own telecommunications certification body, generally acting as the proxy certificate holder.

Le module a   t   certifi   pour l'int  gration dans les produits uniquement par les int  grateurs OEM dans les conditions suivantes:

- *L'antenne doit   tre install  e de mani  re    maintenir une distance de s  paration minimale, comme indiqu   ci-dessus, entre le radiateur (antenne) et toutes les personnes.*
- *Le module   metteur ne doit pas   tre localis   ou fonctionner conjointement avec une autre antenne ou un autre   metteur.*

Remarque Importante: au cas o   ces conditions ne pourraient pas   tre remplies, le produit final devra   tre soumis    des tests suppl  mentaires pour   valuer l'exposition RF, afin que l'autorisation ISED reste valable, et une modification permissive devra   tre appliqu  e    l'aide de propre organisme de certification de t  l  communication du client en g  n  ral agissant en tant que titulaire du certificat mandataire.

2.8. Product labelling /   tiquetage des produits

Finished UWBTRPHA02 modules are labeled with their own IC ID. In all these cases, if the IC ID is not visible after the module is installed inside another device, then the exterior of the device in which the module is installed must also display a label referring to the included module. In this case, the final product must be labeled in a visible area with the following: "Contains the transmitter module IC: 33792-UWBTRPHA02"

Finis Les modules UWBTRPHA02 sont   tiquet  s avec leur propre ID IC. Dans tous ces cas, si l'ID IC n'est pas visible apr  s l'installation du module    l'int  rieur d'un autre appareil, alors l'ext  rieur de l'appareil dans lequel le module est install   doit   galement afficher une   tiquette faisant r  f  rence au module inclus. Dans ce cas, le produit final doit   tre   tiquet   dans une zone visible avec les   l  ments suivants: "Contient le module transmetteur IC: 33792-UWBTRPHA02"

2.9. RF Radiation Exposure Statement / Déclaration d'exposition aux rayonnements RF

This product is approved for portable use and complies with ISED radiation exposure limits set forth for an uncontrolled environment regardless of separation distance . This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with ISED multi-transmitter product procedures.

Ce produit est approuvé pour une utilisation portable et est conforme aux limites d'exposition aux rayonnements de l'ISED établies pour un environnement non contrôlé, quelle que soit la distance de séparation.

Cet appareil et son (ses) antenne(s) ne doivent pas être co-localisés ou utilisés en conjonction avec une autre antenne ou un autre émetteur, sauf en conformité avec les procédures du produit multi-émetteur de la ISED.

This device complies with Health Canada's Safety Code. The installer of this device should ensure that RF radiation is not emitted in excess of the Health Canada's requirement.

Cet appareil est conforme avec Santé Canada Code de sécurité 6. Le programme d'installation de cet appareil doit s'assurer que les rayonnements RF n'est pas émis au-delà de l'exigence de Santé Canada.