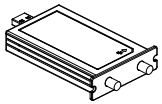
# Contents



CRD32 Wi-Fi module

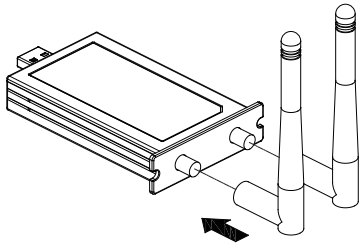
Quick start guide

Spacer x2

M3XL50 Screw x2

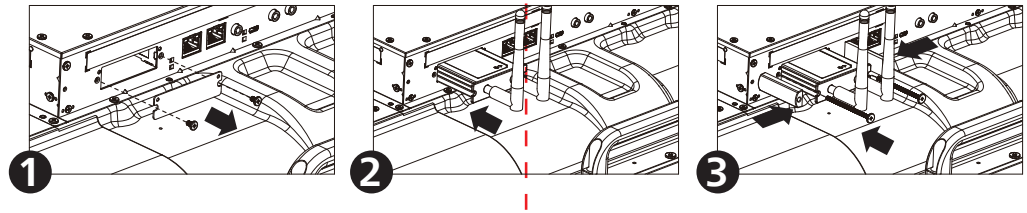
Dipole Antenna x2

# 1 Installation



# 2 Install CRD32 into display


- Please ask the professionals to install the CRD32 Wi-Fi module.
- Ensure your display is powered off before installation.




Step 1: Remove the two screws from the cover.
Step 2: Install the CRD32 Wi-Fi module. Please plug it into the slot slowly and carefully.
Step 3: Use the spacers and screws from the accessory pack to secure the Wi-Fi module.

**• Professional installation instruction**

**1. Installation personal**
This product is designed for specific application and needs to be installed by a qualified personal who has RF and related rule knowledge. The general user shall not attempt to install or change the setting.

**2. Installation location**
The product shall be installed at a location where the radiating antenna can be kept 20 cm from nearby person in normal operation condition to meet regulatory RF exposure requirement.

**3. External antenna**
Use only the antennas which have been approved by the applicant. The non-approved antenna(s) may produce unwanted spurious or excessive RF transmitting power which may lead to the violation of FCC limit and is prohibited.

**4. Installation procedure**
Please refer to user's manual for the detail.

**5. Warning**
Please carefully select the installation position and make sure that the final output power does not exceed the limit set force in relevant rules. The violation of the rule could lead to serious federal penalty.

**• Instructions d'installation professionnelle**

**1. Installation**
Ce produit est destine a un usage specifique et doit etre installe par un personnel qualifie maitrisant les radiofrequences et les regles s'y rapportant. L'installation et les reglages ne doivent pas etre modifies par l'utilisateur final.

**2. Emplacement d'installation**
En usage normal, afin de respecter les exigences reglementaires concernant l'exposition aux radiofrequences, ce produit doit etre installe de facon a respecter une distance de 20 cm entre l'antenne emettrice et les personnes.

**3. Antenn externe.**
Utiliser uniquement les antennes approuvees par le fabricant. L'utilisation d'autres antennes peut conduire a un niveau de rayonnement essentiel ou non essentiel depassant les niveaux limites definis par ISED, ce qui est interdit.

**4. Procedure d'installation**
Consulter le manuel d'utilisation.

**5. Avertissement**
Choisir avec soin la position d'installation et s'assurer que la puissance de sortie ne depasse pas les limites en vigueur.
La violation de cette regle peut conduire a de serieuses penalites federales.

# 3 Safety Instructions

**Safety precautions and maintenance**

WARNING: Use of controls, adjustments or procedures other than those specified in this documentation may result in exposure to shock, electrical hazards and/or mechanical hazards.

**Read and follow these instructions when connecting and using your CRD32 Wi-Fi module:**

**Operation:**

- Keep the CRD32 Wi-Fi module out of direct sunlight and away from stoves or any other heat sources.
- Keep the CRD32 Wi-Fi module away from oil, otherwise the plastic cover may be damaged.
- Remove any object that could fall into ventilation holes or prevent proper cooling of the CRD32 Wi-Fi module's electronics.
- Do not block the ventilation holes on the cabinet.
- Do not subject the CRD32 Wi-Fi module to severe vibration or high impact conditions during operation.
- Do not knock or drop the CRD32 Wi-Fi module during operation or transportation.
- For doors or covers intended to be removed by operator for installation of accessory devices. Instructions shall be provided for the correct removal and reinstallation of the door.

**Maintenance:**

- Unplug the CRD32 Wi-Fi module if you are not going to use it for an extensive period of time.
- Unplug the CRD32 Wi-Fi module if you need to clean it with a slightly damp cloth. The screen may be wiped with a dry cloth when the power is off. However, never use organic solvent, such as, alcohol, or ammonia-based liquids to clean your CRD32 Wi-Fi module.
- To avoid the risk of shock or permanent damage to the set, do not expose the CRD32 Wi-Fi module to dust, rain, water or an excessively moist environment.
- If your CRD32 Wi-Fi module becomes wet, wipe it with dry cloth as soon as possible.
- If a foreign substance or water gets in your CRD32 Wi-Fi module, turn the power off immediately and disconnect the power cord. Then remove the foreign substance or water, and send the unit to the maintenance center.
- Do not store or use the CRD32 Wi-Fi module in locations exposed to heat, direct sunlight or extreme cold.
- In order to maintain the best performance of your CRD32 Wi-Fi module and ensure a longer lifetime, we strongly recommend using the CRD32 Wi-Fi module in a location that falls within the following temperature and humidity ranges.
  - Temperature: 0-40°C 32-104°F
  - Humidity: 20-80% RH

**Service:**

- The casing cover should be opened only by qualified service personnel.
- If there is any need for repair or integration, please contact your local service center.
- Do not leave your CRD32 Wi-Fi module under direct sunlight.

If your CRD32 Wi-Fi module does not operate normally, having followed the instructions set out in this document, please contact a technician or your local service center.

**Warning:**
This equipment is compliant with Class A of EN55032/CISPR 32. In a residential environment this equipment may cause radio interference.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

# 3 Safety Instructions

**EU Declaration of Conformity / UK Declaration of Conformity**
This device complies with the essential requirements of the Radio Equipment Directive (2014/53/EU) or Radio Equipment Regulations 2017(for UK).
The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the Radio Equipment Directive

**Radiation Exposure Statement:**
This equipment complies with CE radiation exposure limits set forth for an uncontrolled environment.
This equipment should be installed and operated with minimum distance 20cm between the radiator & body.
The frequency, mode and the maximum transmitted power are listed below:
- 2400-2483.5MHz: < 20 dBm (EIRP) ( for 2.4G product only)
- 5150-5250MHz: < 23 dBm (EIRP)
- 5250-5350MHz: < 23 dBm (EIRP)
- 5470-5725MHz: < 30 dBm (EIRP)
- 5725-5875MHz: < 13.98 dBm (EIRP)

The device is restricted to indoor use only when operating in the 5150 to 5350MHz frequency range. ( for 5G product only)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | AT | BE | BG | HR | CY | CZ | DK |
| | EE | FI | FR | DE | EL | HU | IE |
| | IT | LV | LT | LU | MT | NL | PL |
| | PT | RO | SK | SI | ES | SE | UK(NI) |
| | UK | | | | | | |

This device complies with Part 15 of the FCC / ISED's licence-exempt RSSs 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.
Le présent appareil est conforme aux CNR d' ISED 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.

**FCC/ISED/CE-RED Caution:**
Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
Operations in the 5GHz products are restricted to indoor usage only.

**Radiation Exposure Statement:**
This equipment complies with FCC/ISED/CE-RED 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 ISED 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.

# 3 Safety Instructions

**North Europe (Nordic Countries) Information**

Placering/Ventilation
**VARNING:**
FÖRSÄKRA DIG OM ATT HUVUDBRYTARE OCH UTTAG ÄR LÄTÅTKOMLIGA, NÄR DU STÄLLER DIN UTRUSTNING PÅPLATS.

Placering/Ventilation
**ADVARSEL:**
SØRG VED PLACERINGEN FOR, AT NETLEDNINGENS STIK OG STIKKONTAKT ER NEMT TILGÆNGELIGE.

Paikka/Ilmankierto
**VAROITUS:**
SIJOITA LAITE SITEN, ETTÄ VERKKOJOHTO VOIDAAN TARVITTAESSA HELPOSTI IRROTTAA PISTORASIASTA.

Plassering/Ventilasjon
**ADVARSEL:**
NÅR DETTE UTSTYRET PLASSERES, MÅ DU PASSE PÅ AT KONTAKTENE FOR STØMTILFØRSEL ER LETTE Å NÅ.

**Turkey RoHS:**
Türkiye Cumhuriyeti: EEE Yönetmeliğine Uygundur

**Ukraine RoHS:**
Обладнання відповідає вимогам Технічного регламенту щодо обмеження використання деяких небезпечних речовин в електричному та електронному обладнанні, затвердженого постановою Кабінету Міністрів України від 3 грудня 2008 № 1057

**End-of-Life Disposal**
Your new Public Information Display contains materials that can be recycled and reused. Specialized companies can recycle your product to increase the amount of reusable materials and to minimize the amount to be disposed of.
Please find out about the local regulations on how to dispose of your old CRD32 Wi-Fi module from your local Philips dealer.
**(For customers in Canada and U.S.A.)**
This product may contain lead and/or mercury. Dispose of in accordance to local-state and federal regulations. For additional information on recycling contact www.eia.org (Consumer Education Initiative)

**Waste Electrical and Electronic Equipment-WEEE**
**Attention users in European Union private households**

This marking on the product or on its packaging illustrates that, under European Directive 2012/19/EU governing used electrical and electronic appliances, this product may not be disposed of with normal household waste. You are responsible for disposal of this equipment through a designated waste electrical and electronic equipment collection. To determine the locations for dropping off such waste electrical and electronic, contact your local government office, the waste disposal organization that serves your household or the store at which you purchased the product.

# 3 Safety Instructions

**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.

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.
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
This device meets all the other requirements specified in Part 15E, Section 15.407 of the FCC Rules.

**FOR MOBILE DEVICE USAGE (>20cm/low power)**

**Radiation Exposure Statement:**
This equipment complies with FCC 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.
This module is intended for OEM integrators only. Per FCC KDB 996369 D03 OEM Manual v01 guidance, the following conditions must be strictly followed when using this certified module:

**KDB 996369 D03 OEM Manual v01 rule sections:**

**1. List of applicable FCC rules**
This module has been tested for compliance to FCC Part 15

**2. Summarize the specific operational use conditions**
The module is tested for standalone mobile RF exposure use condition. Any other usage conditions such as co-location with other transmitter(s) or being used in a portable condition will need a separate reassessment through a class II permissive change application or new certification.

**3. Limited module procedures**
Not applicable.

**4. Trace antenna designs**
Not applicable.

**5. RF exposure considerations**
This equipment complies with FCC mobile radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body. If the module is installed in a portable host, a separate SAR evaluation is required to confirm compliance with relevant FCC portable RF exposure rules.

**6. Antennas**
The following antennas have been certified for use with this module; antennas of the same type with equal or lower gain may also be used with this module. The antenna must be installed such that 20 cm can be maintained between the antenna and users.

| Antenna Type | Antenna connector |
|---|---|
| PIFA | IPEX |
| Dipole | R-SMA |

# 3 Safety Instructions

**7. Label and compliance information**

The final end product must be labeled in a visible area with the following: "Contains FCC ID: ARS-CRD32". The grantee's FCC ID can be used only when all FCC compliance requirements are met.

**8. Information on test modes and additional testing requirements**

This transmitter is tested in a standalone mobile RF exposure condition and any co-located or simultaneous transmission with other transmitter(s) or portable use will require a separate class II permissive change re-evaluation or new certification.

**9. Additional testing, Part 15 Subpart B disclaimer**

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

As long as all conditions 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.

**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 FCC authorization is no longer considered valid and the FCC 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 FCC 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 FCC/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.

### 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.

### OEM/Host manufacturer responsibilities

OEM/Host manufacturers are ultimately responsible for the compliance of the Host and Module. 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

51-92452 :רפסמ רושיא המאתה טעמכ דרשמ תרושקתה
לח רוסיא עצבל תולועפ רישכמב שיש ךכ ידכ תונשל תא ויתונוכת תויטולאה לש
רישכמה, ללכבו הז יוניש הנכות, תפלחה הנטנא תירוקמ וא תפסוה תורשפא רוביחל
טוחלאתוי הנטנאל תינוציח, אלב תלבק רושיא דרשמ תרושקתה, לשכ ששחה תוערפהל

# 3 Safety Instructions

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

**(For module device use)**

1) The transmitter module may not be co-located with any other transmitter or antenna.

As long as 1 conditions 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.

**Cet appareil est conçu uniquement pour les intégrateurs OEM dans les conditions suivantes:**

**(Pour utilisation de dispositif module)**

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

Tant que les 1 conditions 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.

### End Product Labeling FOR MOBILE DEVICE USAGE (>20cm/low power)

This transmitter module is authorized only for use in device where the antenna may be installed and operated with greater than 20cm between the antenna and users. The final end product must be labeled in a visible area with the following: "Contains IC: 9190A-CRD32".

### Plaque signalétique du produit final

Ce module émetteur est autorisé uniquement pour une utilisation dans un appareil où l'antenne peut être installée et utilisée à plus de 20 cm entre l'antenne et les utilisateurs. Le produit final doit être étiqueté dans un endroit visible avec l'inscription suivante: "Contient des IC: 9190A-CRD32".

### Caution :

(i) the device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

(ii) for devices with detachable antenna(s), the maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit;

(iii) for devices with detachable antenna(s), the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits as appropriate;

(iv) where applicable, antenna type(s), antenna models(s), and worst-case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in section 6.2.2.3 shall be clearly indicated.

### Avertissement:

Le guide d'utilisation des dispositifs pour réseaux locaux doit inclure des instructions précises sur les restrictions susmentionnées, notamment :

(i) les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;

(ii) pour les dispositifs munis d'antennes amovibles, le gain maximal d'antenne permis pour les dispositifs utilisant les bandes de 5 250 à 5 350 MHz et de 5 470 à 5 725 MHz doit être conforme à la limite de la p.i.r.e;

(iii) pour les dispositifs munis d'antennes amovibles, le gain maximal d'antenne permis (pour les dispositifs utilisant la bande de 5 725 à 5 850 MHz) doit être conforme à la limite de la p.i.r.e. spécifiée, selon le cas;

(iv) lorsqu'il y a lieu, les types d'antennes (s'il y en a plusieurs), les numéros de modèle de l'antenne et les pires angles d'inclinaison nécessaires pour rester conforme à l'exigence de la p.i.r.e. applicable au masque d'élévation, énoncée à la section 6.2.2.3, doivent être clairement indiqués

### DETACHABLE ANTENNA USAGE

This radio transmitter [IC: 9190A-CRD32] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Le présent émetteur radio [IC: 9190A-CRD32] a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué pour tout type figurant sur la liste, sont strictement interdits pour l'exploitation de l'émetteur.

| Manufacturer | Model | Antenna Type | Max Gain (dBi) | Impedance (Ω) |
|---|---|---|---|---|
| [JEM] | [1510-0226-0085] | [Dipole] | [2.78] | [50] |

# 4 Technical Specifications

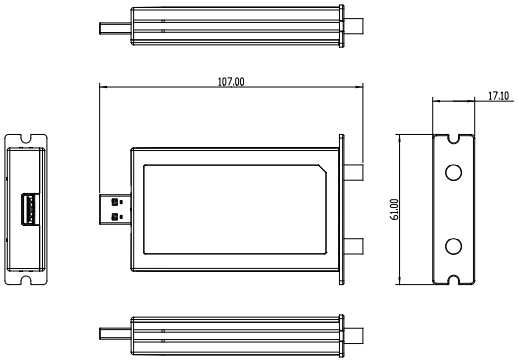
| Item | | Specification | |
|---|---|---|---|
| Main Chip | | RTL8852BU | |
| Front end I/O | Input Signal | USB 2.0 | |
| Power supply | | Type | On board connector for Mainboard |
| | | Input voltage | 5V |
| | | Rating | 5V ⎓ 0.5A |
| | | Power consumption | 2.5W |
| | | Input connector | USB 2.0 |
| Operational Environment | | Temperature | 60℃ |
| | | Humidity | 20 - 80% (without condensation) |
| Storage Environment | | Temperature | -40 ~ 80℃ |
| | | Humidity | 10 - 90% (without condensation)<br>90-3.5x(Temp-40[℃]) % regarding over 40℃ |
| Dime nsion(W x H x D) | | Net | 107mm x 61mm x 17.1mm |
| | | Gross | 138mm x 110mm x 32mm |
| Weight | | Net(Kg) | 0.047 Kg |
| | | Gross(Kg) | 0.131 Kg |
| Media Access Protocol | | CSMA/CA with ACK | |

**Note :**

1: The WLAN operation supports 20MHz,40MHz and 80MHz channels for data rates up to 1201Mbps.

2: It can be used to provide up to 54Mbps for IEEE 802.11a and IEEE 802.11g, 11Mbps for IEEE 802.11b and 300Mbps for IEEE802.11n.

3: The Bluetooth part supports latest Bluetooth 5.2.



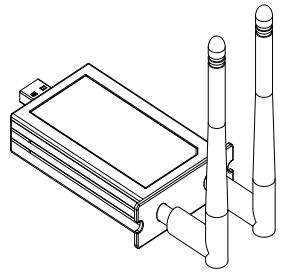

| WLAN | | | | |
|---|---|---|---|---|
| Gain(dBi) | | | Antenna Type | Connector Type |
| Frequency(GHz) | H-PLANE | V-PLANE | | |
| 2.4 | 0.51 | 0.51 | FPC | IPEX |
| 2.45 | 1.9 | 1.9 | | |
| 2.5 | 1.99 | 1.99 | | |
| 5.15 | 1.49 | 1.49 | | |
| 5.35 | 2.37 | 2.37 | | |
| 5.85 | 3.82 | 3.82 | | |

| BT | | | |
|---|---|---|---|
| Frequency(MHz) | Gain(dBi) | Antenna Type | Connector Type |
| 2400 | 0.51 | FPC | IPEX |
| 2410 | 0.71 | | |
| 2430 | 1.09 | | |
| 2440 | 1.63 | | |
| 2450 | 1.9 | | |
| 2460 | 1.97 | | |
| 2470 | 1.65 | | |
| 2480 | 1.7 | | |
| 2490 | 1.77 | | |
| 2500 | 1.99 | | |

PHILIPS

Professional Display Solutions

CRD32



# Quick start

PHILIPS

Version: V1.00 2024-02-21

TPV USA Corp
6525 Carnegie Blvd #200
Charlotte, NC 28211
USA

**UK Authorized Representative**
UKCA Experts Ltd.
Dept 302, 43 Owston Road Carcroft
Doncaster, DN6 8DA United Kingdom

Q41G75M181347A