

# MDT1060/1065/865 Quick Start Guide

## Accessories highlights



1. Plastic Tape for cradle back connector if not used
2. Metal Stand (Be a desktop dock station)
3. Keys and Screws
4. Cable used for vehicle cradle, it can connect to cradle bottom side
5. Metal Mount
6. Type C cable for home adapter
7. NFC Card
8. Vehicle cradle or desktop dock station
9. Cradle extension cable (connected to new cable for power supply)

## 2 in 1 full features cradle (desktop dock station or vehicle cradle)

### 1. To be desktop dock station

- Metal plate at the bottom
- Mainly use the connector (type C for charging) at the back. Please note that the adapter needs to be high power (Support PD fast charging)



### 2. To be vehicle cradle

- No metal plate at the bottom
- Use the molex connector at the bottom. The LAN (RJ45) connector and other connector at the back is optional. If not used, it can be closed by a plastic tape, see below

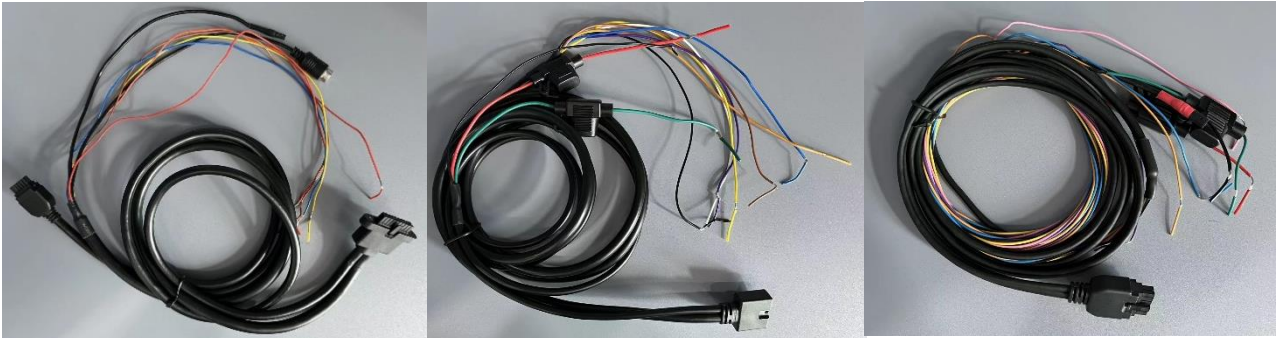
#### **Without metal plate**



#### **Lock the Molex connector to the cradle by screw**



## Bottom Cable



Cradle cable(CAB-MB-FULL)

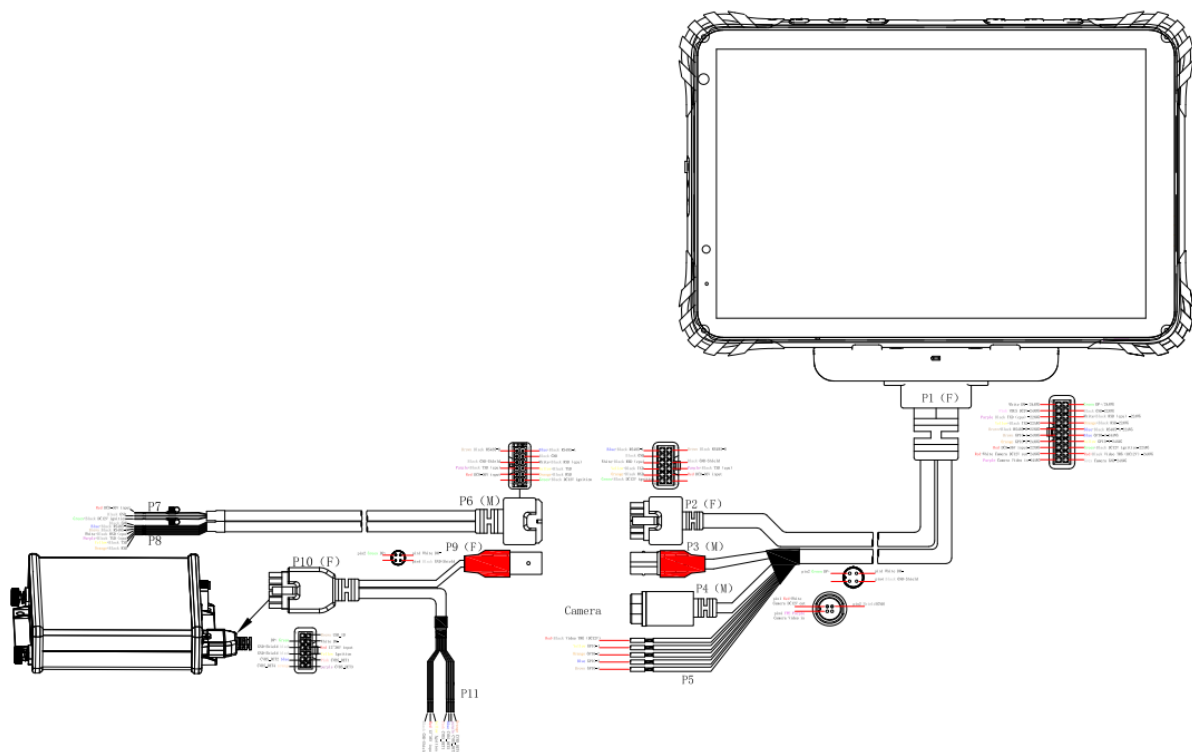
cradle extension cable (CAB-EX-FULL)

camera hub cable(CAB-EX-HUB)

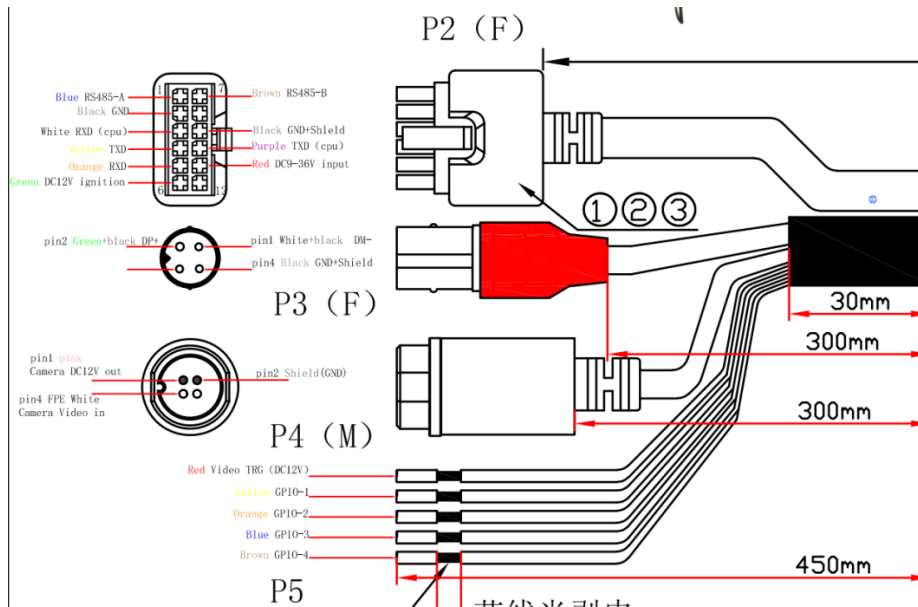
### Bottom cradle cable can offer below function in full features cradle

- Vehicle Input: DC 9V to 36V, ignition control with optional switch in the cradle
- Serial port: RS485 x 1, RS232 x 2
- Support one channel video input (Support AHD 720P, 1080P and Analog camera)
- Support four channels video input, connect to Camera Hub by extension cable (Refer to the Camera Hub manual), with 4 trigger input
- I/O: Analog input ADC x 1, Digital input x 2, Digital output x 1

### Cable pin assignment overview



## Cable specification below



### P2 Power and serial port connector

Pin	Definition
1	RS485-A
2	GND
3	RXD (CPU)
4	TXD (USB)
5	RXD (USB)
6	DC 12V Ignition
7	RS485-B
9	GND
10	TXD (CPU)
11	DC 9-36V input

### P3 Camera Hub connector

Pin	Definition
1	DM-
2	DP+
4	GND

### P5 GPIO Wires

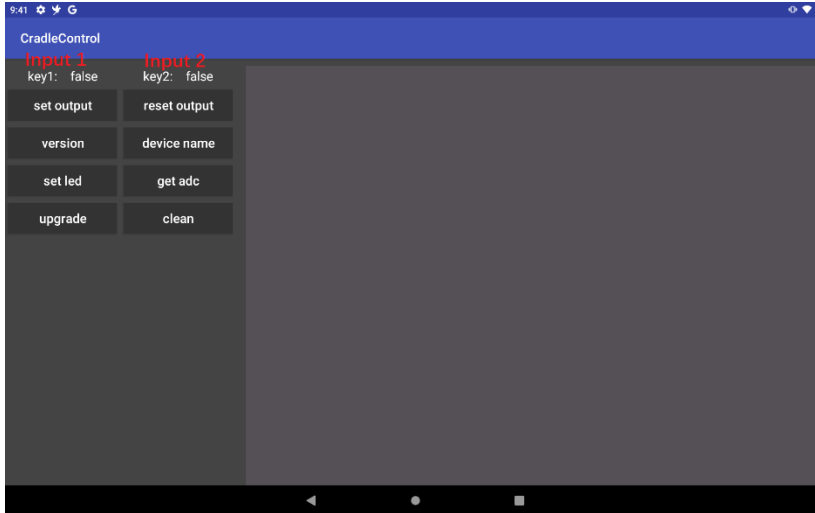
Wires color	Definition
Red	Video input trriger DC12V
Yellow	GPIO-1 (Input 1)
Orange	GPIO-2 (Input 2)
Bule	GPIO-3 (output)
Brown	GPIO-4 (ADC)



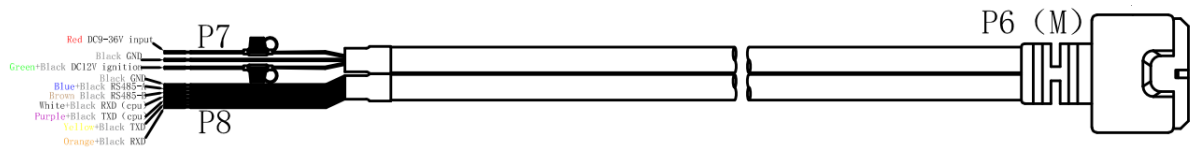
## GPIO Demo APK

CRD1060GPIO\_demo20220419.apk and surce code link:

<https://drive.google.com/file/d/1ZLEyXAlZxOo0EjTW6ks7oMGjwnLiYcrQ/view?usp=sharing>



## Power and Serial port extension cable



**P6** Connector connect to the P2 connector

**P7** Connect the Vcc (red wire), ignition (green wire) and GND (black wire) to the power supply (DC9V-36V)

**P8** serial port RS232 and RS485 wires

Wires color	Definition
White	RXD (CPU)
Purple	TXD (CPU)
Orange	RXD (USB)
Yellow	TXD (USB)
Blue	RS485-A
Brown	RS485-B

RS232 purple/white is from CPU, it's same as mdt860 and mdt760, it can work even no external power supply.

RS232 orange/yellow and RS485 blue/brown are converted from USB Hub and will only work if there is an external power supply.



## Serial port demo APK

SerialPort\_20220712.apk and source code link:

<https://drive.google.com/file/d/1Pm7TZcbzJ6jzWnTNwdIV8jliVvYc1haT3/view?usp=sharing>

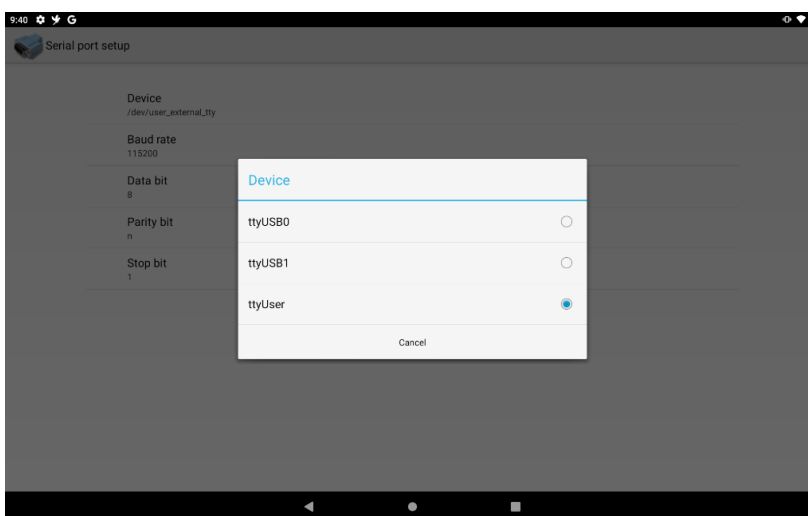
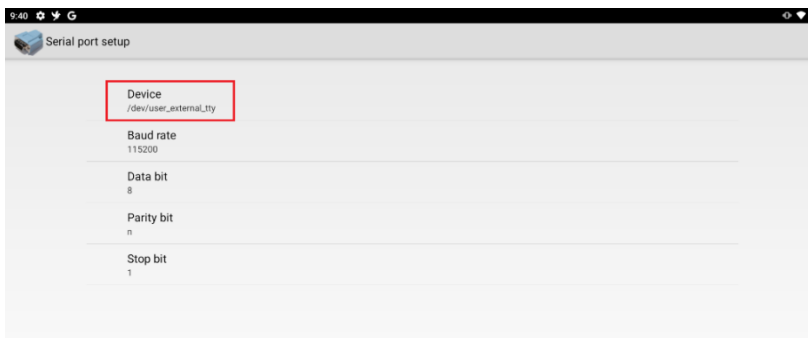


### Device tty port option:

RS232 purple/white is ttyUser

RS232 orange/yellow is ttyUSB0

RS485 blue/brown is ttyUSB1





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**When installing in the vehicle, pls use below metal parts, it has 2 purposes**

1. let the cable to the toward the back side
  2. It can use for supporting as the device is quite heavy. It will not shake even the car has vibration.
- There are few options. If there are supporting at the bottom or at the back (with angle), you can make different installation (see below 2 video)



It can be changed the length from 50mm to 80mm

[https://drive.google.com/file/d/1ybp\\_Ji3AL1t94PQ\\_KVtJO9mk\\_J8UiY8Q/view?usp=sharing](https://drive.google.com/file/d/1ybp_Ji3AL1t94PQ_KVtJO9mk_J8UiY8Q/view?usp=sharing)

<https://drive.google.com/file/d/1etWxYVJcbXDs8J-GP0dq8IVuBiYc0t3S/view?usp=sharing>



## Basics vehicle cradle

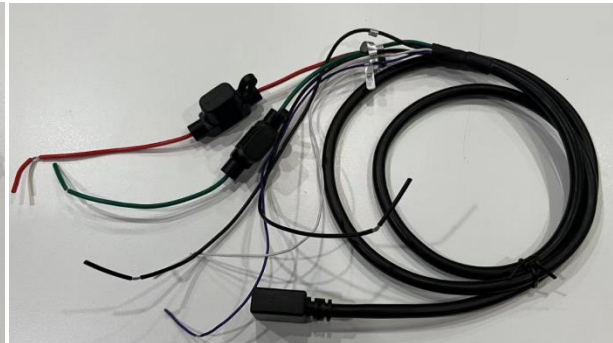
only 1xRS232, 1x OTG and vehicle Vcc (12-24V) input, Ignition, **NO type C charging even plug to tablet**  
all connector at the back will be closed



### Bottom cable

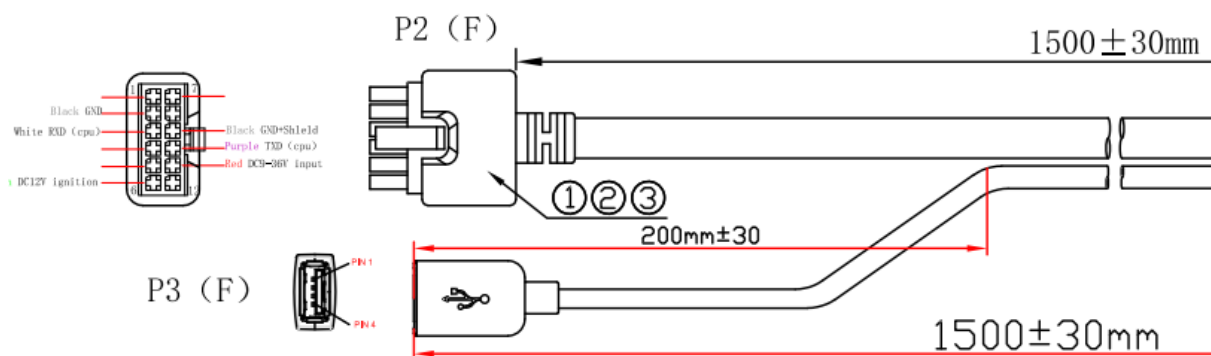


CRD1060 basic cable (CAB-MB-BASIC)



Extension cable (CAB-EX-BASIC)

### Basic Cable specification below





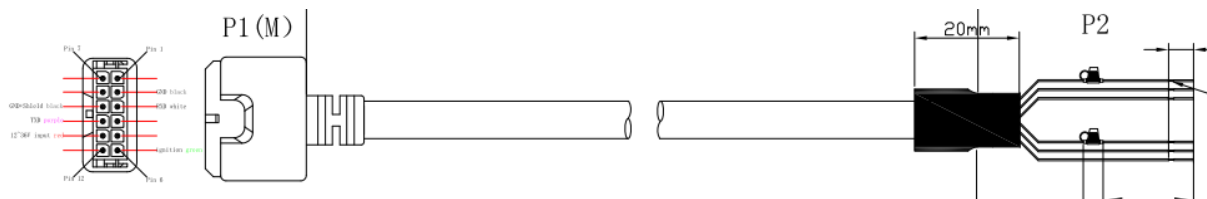
### P2 Connector

Pin	Definition
2	GND
3	RXD (CPU)
6	DC 12V Ignition
9	GND
10	TXD (CPU)
11	DC 9-36V input

### P3 Connector

Pin	Definition
1	Vbus 5V
2	D-
3	D+
4	GND

### Extension cable specification below



### P2 Wires

Colour	Definition
Black	GND
White	RXD (CPU)
Green	DC 12V Ignition
Black	GND
Purple	TXD (CPU)
Red	DC 9-36V input



Caution: Use the Product in the environment with the temperature Between  $-10^{\circ}\text{C}$  and  $40^{\circ}\text{C}$ ; Otherwise, it may damage your product. Products can only be used below 2000m altitude

For the following equipment:

Product Name: Tablet

Brand Name: --

Model No.: MDT865, PaceBlade MDT-801, OBC865, M865A, M865B, MDT865D

TOPICON HK LIMITED

E-mail: keller.sin@topicon.hk

hereby declares that this [Name: Tablet, Model: MDT865, PaceBlade MDT-801, OBC865, M865A, M865B, MDT865D] is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.



Adapter shall be installed near the equipment and shall be easily accessible.

Only can use adapter as below:

Power Adapter Model: GS-W20A0938

Input: 100- 240Va.c. 50/60Hz 0.6A Max

Output: 5Vd.c. 3A or 9Vd.c. 2.22A or 12Vd.c. 1.67A

Shenzhen Good-she technology Co., Ltd

The plug considered as disconnect device of adapter.

RED Article 10 2

-This product can be used across EU member states

RED Article 10 10

-The product is class 1 product, No restrictions

The RF distance between body and product is 0mm

## 2G

Frequency Range:

GSM900: Tx: 880-915MHz, Rx: 925-960MHz

DCS1800: Tx: 1710-1785MHz, Rx: 1805-1880MHz

RF Output Power:

GSM900: 32.80dBm, GSM1800: 31.06dBm

EDGE900: 26.89dBm, EDGE1800: 26.97dBm

## 3G

Frequency Range:

WCDMA Band 1: Tx: 1920-1980MHz, Rx: 2110-2170MHz

WCDMA Band 8: Tx: 880-915MHz, Rx: 925-960MHz

RF Output Power:

WCDMA Band 1: 24.03dBm, WCDMA Band 8: 22.95dBm

## 4G

Frequency Range:

FDD-LTE Band 1: Tx: 1920-1980MHz, Rx: 2110-2170MHz

FDD-LTE Band 3: Tx: 1710-1785MHz, Rx: 1805-1880MHz



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Max.RF Output Power: FDD-LTE Band 7: Tx: 2500-2570MHz, Rx: 2620-2690MHz  
FDD-LTE Band 8: Tx: 880-915MHz, Rx: 925-960MHz  
FDD-LTE Band 20: Tx: 832-862MHz, Rx: 791-821MHz  
FDD-LTE Band 28: Tx: 703-748MHz, Rx: 758-803MHz  
TDD-LTE Band 38: Tx: 2570-2620MHz, Rx: 2570-2620MHz  
TDD-LTE Band 40: Tx: 2300-2400MHz, Rx: 2300-2400MHz  
FDD-LTE Band 1: 23.65dBm, FDD-LTE Band 3: 23.31dBm,  
FDD-LTE Band 7: 24.11dBm, FDD-LTE Band 8: 23.44dBm ,  
FDD-LTE Band 20: 23.31dBm , FDD-LTE Band 28: 23.34dBm ,  
TDD-LTE Band 38: 24.19dBm, TDD-LTE Band 40: 23.68dBm

**Bluetooth**

Frequency Range: 2402-2480MHz  
Max.RF Output Power: 9.46dBm (EIRP)

**Wi-Fi (2.4GHz)**

Support Standards: 802.11b, 802.11g, 802.11n-HT20/40  
Frequency Range: 2412-2472MHz for 802.11b/g/n(HT20)  
2422-2462MHz for 802.11n(HT40)  
Max.RF Output Power: 15.39dBm (EIRP)

**NFC**

Frequency Range: 13.56MHz  
Radiated H-Field: 14.49dBuA/m(@3m)

**LORA**

Frequency Range: 868.00MHz-868.6 MHz  
869.4MHz-869.650 MHz  
868.1MHz: 13.04dBm(ERP)  
868.3MHz : 13.03dBm(ERP)  
868.5MHz: 13.02dBm(ERP)  
869.525MHz: 13.06 dBm(ERP)

**GPS**

Frequency Range: 1575.42MHz Receiving



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### **FCC Radiation Exposure Statement:**

This device meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health. The SAR limit of USA (FCC) is 1.6 W/kg averaged. Device types: Tablet (FCC ID: 2AHAF-MDT865) has also been tested against this SAR limit. SAR information on this and other pad can be viewed on - line at <http://www.fcc.gov/oet/ea/fccid/>. Please use the device FCC ID number for search. This device was tested simulation typical 0mm to body. To maintain compliance with FCC RF exposure requirements, use accessories should maintain a separation distance between the user's bodies mentioned above, use accessories should not contain metallic components in its assembly, the use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided.

### **FCC Warning**

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.

NOTE 1: 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.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



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## **RF Exposure Statement**

For body worn operation, this device has been tested and meets the IC RF exposure guidelines when used with an accessory designated for this product or when used with an accessory that contains no metal and that positions the handset a minimum of 0mm from the body. Noncompliance with the above restrictions may result in violation of RF exposure guidelines.

Pour les opérations sur le corps, cet appareil a été testé pour répondre aux directives d'exposition IC RF lorsqu'il est utilisé avec les accessoires spécifiques pour ce produit ou avec des accessoires qui ne contiennent pas de métal et dont le téléphone est distant d'au moins 0 mm du corps. Le non - respect des restrictions ci-dessus peut entraîner une violation des directives sur l'exposition aux RF.

## **IC WARNING**

This device contains licence-exempt transmitter(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/récepteur exempt de licence contenu dans le présent 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.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.