

WNFQ-258ACN(BT)

Standard	IEEE802.11ac/a/b/g/n, Bluetooth V4.1,V4.0 LE, V3.0+HS, V2.1+EDR
Chipset solution	QCA6174A-5
Radio stream [Note1]	2T2R (Support WiFi/BT co-existence)
Antenna Type / con.	IPEX MHF4 connector
Bus Interface	WiFi: PCI Express BT: USB
Form Factor	M.2 2230
Data Rate	<p>WiFi:</p> <p>802.11b: 11, 5.5, 2, 1 Mbps;</p> <p>802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps</p> <p>802.11a: 54, 48, 36, 24, 18, 12, 9, 6 Mbps</p> <p>802.11n: MCS 0 to 15 for HT20MHz MCS 0 to 15 for HT40MHz</p> <p>802.11ac: MCS 0 to 9 for VHT20MHz MCS 0 to 9 for VHT40MHz MCS 0 to 9 for VHT80MHz</p> <p>BT:</p> <p>1 Mbps, 2Mbps and Up to 3Mbps EDR</p>
Spreading /Modulation Techniques	<p>WiFi:</p> <p>802.11a: OFDM (BPSK, QPSK, 16-QAM, 64-QAM)</p> <p>802.11b: DSSS (DBPSK, DQPSK, CCK)</p> <p>802.11g: OFDM (BPSK, QPSK, 16-QAM, 64-QAM)</p> <p>802.11n: OFDM (BPSK, QPSK, 16-QAM, 64-QAM)</p> <p>802.11ac: OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM)</p> <p>BT:</p> <p>Header: GFSK</p> <p>Payload 2M: 4-DQPSK</p> <p>Payload 3M: 8-DPSK</p>
Frequency Range [Note2]	<p>WiFi:</p> <p>11b/g/n: 2.412GHz ~ 2.484GHz</p> <p>11ac/a/n: 5.15GHz ~ 5.85GHz</p> <p>BT:</p> <p>2.402GHz ~ 2.480 GHz</p>
Transmit Output Power (Tolerance: +/-2dBm)	<p>WiFi:</p> <p>802.11a: 11dBm@54Mbps</p> <p>802.11b: 19dBm@11Mbps</p> <p>802.11g: 16dBm@54Mbps</p> <p>802.11gn HT20: 16dBm@MCS7</p>

	802.11gn HT40: 15dBm@MCS7 802.11an HT20: 9dBm@MCS7 802.11an HT40: 9dBm@MCS7 802.11ac VHT80: 7dBm@MCS9 BT: (Class 2 Device) $0 \leq \text{Output Power} \leq +4 \text{ dBm}$
Receiver Sensitivity	WiFi: 802.11b: $\leq -81\text{dBm}@11\text{Mbps}$ 802.11g: $\leq -66\text{dBm}@54\text{Mbps}$ 802.11a: $\leq -66\text{dBm}@54\text{Mbps}$ 802.11gn HT20: $\leq -65\text{dBm}@MCS7$ 802.11gn HT40: $\leq -61\text{dBm}@MCS7$ 802.11an HT20: $\leq -65\text{dBm}@MCS7$ 802.11an HT40: $\leq -61\text{dBm}@MCS7$ 802.11ac VHT80: $\leq -56\text{dBm}@MCS9$ BT: $< 0.1\% \text{ BER at } -70\text{dBm}$
Operating Voltage	DC 3.3V
Power Consumption	TX Mode: 405 mA RX Mode: 200 mA
Temperature Range	$-10^{\circ}\sim+70^{\circ}\text{C}$ (Operating), $-40^{\circ}\sim+85^{\circ}\text{C}$ (Storing) [Note3]
Humidity (non-condensing)	5~90%(Operating), 5~90 % (Storing) [Note3]
Security	WEP / WPA / WPA2,802.1X
OS supported	Win7/Win8.1/Win10

Note:

1. For Radio stream with diversity or MIMO design, all RF connectors on the module must be fitting antennas in order to guarantee the module performance.
2. The frequency range is subject to local regulations.
3. The storing condition is only for product functionality, no included for parts appearance.

NCC 警語

<p>(1)</p>	<p>本產品符合低功率電波輻射性電機管理辦法</p> <p>第十二條</p> <p>※經型式認證合格之低功率射頻電機，非經許可，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。</p> <p>第十四條</p> <p>※低功率射頻電機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。</p> <p>-前項合法通信，指依電信法規定作業之無線電通信。</p> <p>-低功率射頻電機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。</p>
<p>(2)</p>	<p>應避免影響附近雷達系統之操作。</p> <p>高增益指向性天線只得應用於固定式點對點系統。</p>
<p>(3)</p>	<p>此模組若安裝於其他平台時，該平台標籤需標明：</p> <p>此平台內建無線模組  CCXXxxLPyyyZzW</p>

FCC Label Compliance Statement:

- (1) 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.

- FEDERAL COMMUNICATIONS 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 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.

- (3) **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) high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.
 - (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 specified for point-to-point and non-point-to-point operation as appropriate.

(4)	<p>End Product Labeling: This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: “Contains FCC ID: RYK-WNFQ258ACNBT ” . The grantee's FCC ID can be used only when all FCC compliance requirements are met.</p>
(5)	<p>Radiation Exposure Statement 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 2 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</p> <p>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.</p>
(6)	<p>Radiation Exposure Statement: 1) Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment. 2) The product comply with the FCC portable RF exposure limit set forth for an uncontrolled environment and are safe for intended operation as described in this manual. The further RF exposure reduction can be achieved if the product can be kept as far as possible from the user body or set the device to lower output power if such function is available.</p>

(7)	<p>End Product Labeling This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: “Contains FCC ID: RYK-WNFQ258ACNBT” . The grantee's FCC ID can be used only when all FCC compliance requirements are met.</p>
(8)	<p>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</p>

IC Compliance Statement:	
(1)	<p>This device complies with RSS-247 of the Industry Canada Rules. 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. 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 and your body.</p>
(1)	<p>Cet appareil radio est conforme au CNR-247 d’Industrie Canada. L’utilisation de ce dispositif est autorisée seulement 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.</p>

- Caution :**
- (2) (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) high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.
- (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 specified for point-to-point and non-point-to-point operation as appropriate.

- Avertissement:**
- (2) (i) les dispositifs fonctionnant dans la bande 5 150-5 250 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) De plus, les utilisateurs devraient aussi être avisés que les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5 250-5 350 MHz et 5 650-5 850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.
- (iii) pour les dispositifs dotés d'antenne (s) détachable (s), le gain maximal d'antenne autorisé pour les appareils de la bande 5725-5850 MHz doit être tel que l'équipement soit toujours conforme aux normes e.i.r.p. Limites spécifiées pour les opérations point à point et non point-à-point selon le cas

(3) **This radio transmitter (IC:6158A-258ACNBT) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.**

Antenna Name	Antenna Type	Peak Gain(dBi)	
		2.4G	5G
Wanshin R3410110203	Dipole	2 dbi	2dbi
GEC6200	Dipole	3 dbi	5 dbi

(3)	<p>Le présent émetteur radio (IC: 6158A-258ACNBT) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.</p>
(4)	<p>Compliance with IC requirement RSS-247 data transmission is always initiated by software, which is then passed down through the MAC, through the digital and analog baseband, and finally to the RF transceiver. Several special packets are initiated by the MAC. These are the only ways the digital baseband portion will turn on the RF transmitter, which it then turns off at the end of the packet. Therefore, the transmitter will be on only while one of the aforementioned packets are being transmitted.</p>
(4)	<p>est conforme au CNR-247 la transmission de données est toujours initiée par le logiciel, qui est ensuite transmis à travers la MAC, à travers la bande de base numérique et analogique et, enfin, à l'émetteur-récepteur RF. Plusieurs paquets spéciaux sont initiées par le MAC. Ce sont les seuls moyens de la partie bande de base numérique se met en marche l'émetteur RF, ce qui lui puis s'éteint à la fin du paquet. Par conséquent, l'émetteur sera sur que lorsque l'un des paquets ci-dessus sont transmises.</p>
(5)	<p>This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. The antenna should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.</p>
(5)	<p>Cet appareil est conforme aux limites d'exposition aux rayonnements de la IC pour un environnement non contrôlé. L'antenne doit être installé de façon à garder une distance minimale de 20 centimètres entre la source de rayonnements et votre corps. L'émetteur ne doit pas être colocalisé ni fonctionner conjointement avec à autre antenne ou autre émetteur.</p>

<p>(1)</p>	<p>This device is intended only for OEM integrators under the following conditions:</p> <p>(1) The antenna must be installed such that 20 cm is maintained between the antenna and users, and</p> <p>(2) The transmitter module may not be co-located with any other transmitter or antenna.</p> <p>As long as 2 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.</p>
<p>(1)</p>	<p>Cet appareil est conçu uniquement pour les intégrateurs OEM dans les conditions suivantes:</p> <p>(1) L'antenne doit être installée de telle sorte qu'une distance de 20 cm est respectée entre l'antenne et les utilisateurs, et</p> <p>(2) Le module émetteur peut ne pas être coïmplanté avec un autre émetteur ou antenne.</p> <p>Tant que les 2 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.</p>
<p>(2)</p>	<p>End Product Labeling:</p> <p>This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: “Contains IC:6158A-258ACNBT” .</p>
<p>(2)</p>	<p>Plaque signalétique du produit final</p> <p>Ce module émetteur est autorisé uniquement pour une utilisation dans un dispositif où l'antenne peut être installée de telle sorte qu'une distance de 20cm peut être maintenue entre l'antenne et les utilisateurs. Le produit final doit être étiqueté dans un endroit visible avec l'inscription suivante: "Contient des IC:6158A-258ACNBT ".</p>
<p>(3)</p>	<p>Manual Information To the End User:</p> <p>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.</p> <p>The end user manual shall include all required regulatory information/warning as show in this manual.</p>

(3)	<p>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.</p>
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