



User Manual

Model name: ZM260

Zigbee 2.4GHz Module

Version: v1.0



Date: August 8, 2011

Federal Communication Commission Interference Statement

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.

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.

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 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

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.

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:T5U-ZM260”. The grantee's FCC ID can be used only when all FCC compliance requirements are met.

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.



Industry Canada statement:

This device complies with RSS-210 of the Industry Canada 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. Ce dispositif est conforme à la norme CNR-210 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet 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.

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: (For module device use)

- 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.

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 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.

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 Canada 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 Canada 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

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:7424A-ZM260 ” .

Plaque signalétique du produit final

Ce module émetteur est autorisé uniquement pour une utilisation dans un dispositif où l'antenne peut être installée de telle sorte qu'une



Quanta Microsystems

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:7427A-ZM260".

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 man

Contacts

1. Revision History	9
2. Related Documents	9
3. Overview	10
3.1. Scope	10
3.2. Features	10
3.3. Specification	11
3.4. Mechanical Characteristics	12
3.5. Interface definition	14

1. Revision History

Date	Release	Author	Description
August 8, 2010	1.0	Jack Ong	First release

2. Related Documents

Date	Author	Document(s)

3. Overview

3.1. Scope

This document describes the specifications of ZM260 IEEE 802.15.4 RF4CE ZigBee transceivers module. The low power consumption and smaller size are suitable for consumer electronic. ZM260 also provides a cost-effective solution for short-range data links and networks.

3.2. Features

- Extremely low cost
- Ease of implementation
- Reliable data transfer
- Short range operation
- Appropriate levels of security
- Can be used globally

3.3. Specification

■ Absolute Maximum Ratings

Rating	Symbol	Value	Unit
Power Supply Voltage	V_{BATT}, V_{DDINT}	-0.3 to 3.9	Vdc
RF Input Power	P_{max}	10	dBm
Storage Temperature Range	T_{stg}	-20 to 70	°C

■ Operating condition

Rating	Symbol	Min	Typ	Max	Unit
Power Supply Voltage	V_{BATT}, V_{DDINT}	2.2	3.3	3.6	V_{DC}
Operation Temperature Rang	T_A	-10	25	70	°C
Operation Frequency	f	2.405		2.48	GHz

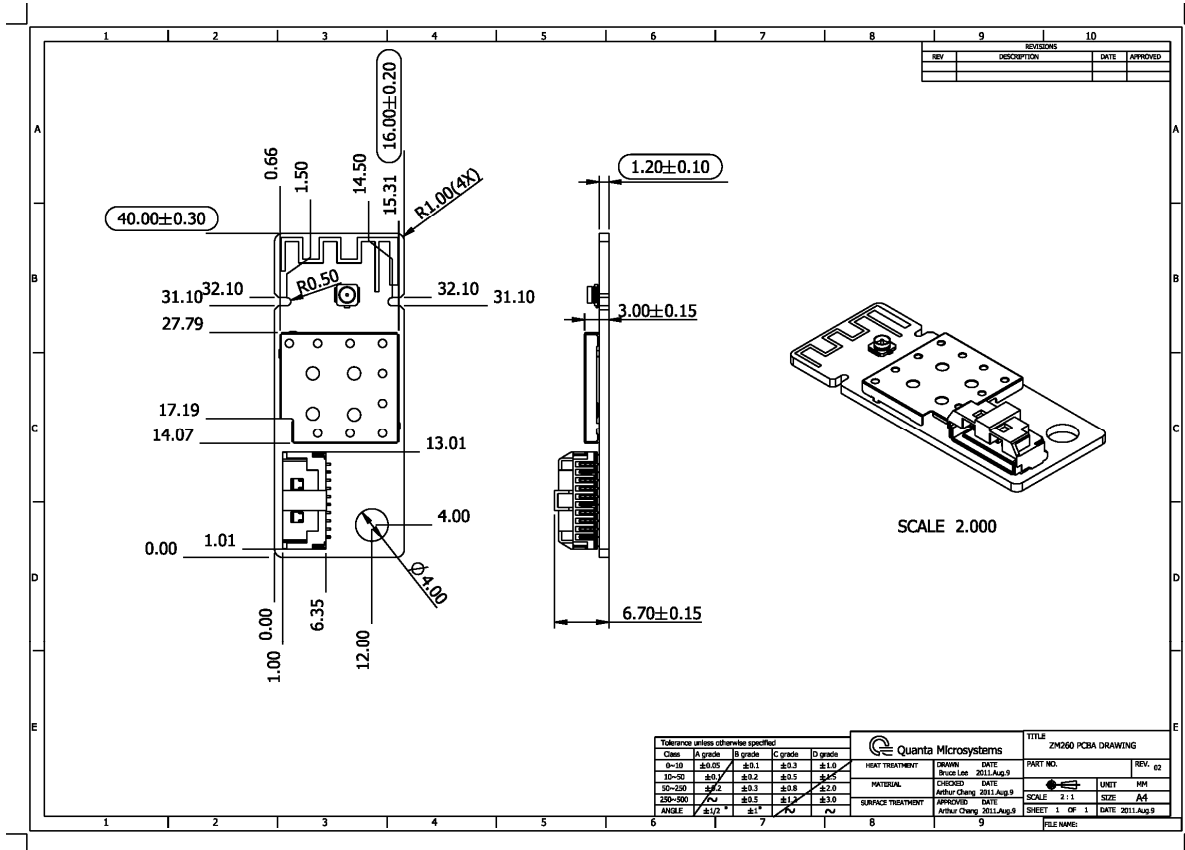
■ Characteristic (operating voltage= $3.3V_{DC}$; temperature= $25^{\circ}C$)

Characteristic	Min	Typ	Max	Unit
DC Electrical Characteristics				
Normal mode current	---	28	---	mA
Idle mode current	1.6	1.8	2	mA
Sleep mode current	---	0.2	---	mA
Transmit				
Transmit Power	-3.5	0	2.77	dBm

Transmit Center Frequency Tolerance	-20	6	20	ppm
Error Vector Magnitude (EVM) (over temp.)	---	12	35	%
Receiver				
Sensitivity for 1% Packet Error Rate (PER)	---	-97	-92	dBm
Maximum Input Power		10		dBm
Channel Rejection for 1% PER (desired signal -82 dBm)				
+5 MHz (adjacent channel)	---	46	---	dB
-5 MHz (adjacent channel)	---	46	---	dB
+10 MHz (alternate channel)	---	53	---	dB
-10 MHz (alternate channel)	---	53	---	dB
>= 15 MHz	---	53	---	dB
Energy Detect / Link Quality Indicator	-6		+6	dB

3.4. Mechanical Characteristics

- Outline dimension drawing



3.5. Interface definition

■ Connector 10-PIN

Pin	Pin Name
1	GND_USB
2	D+
3	D-
4	GND_SYNC
5	SYNC
6	RESET
7	GND
8	RX
9	TX
10	VDD