

文件編號：

<h1>Approval Sheet</h1>		Date : 03-JUN-2013
Customer		
Part Number		
Description	Bluetooth Stereo Flash Module	
Customer's Project		
Manufacturer	Rayson Technology Co., Ltd	
Model Name	BTM760	
Supplier Level : <input type="checkbox"/> New Source <input type="checkbox"/> Second Source		
Contact Person : <u> Jerry </u> Tel : <u> +886-3-5633666 </u>		
Approval status : E.E. engineer : <u> Jerry </u> <input checked="" type="checkbox"/> Approval <input type="checkbox"/> Reject M.E. engineer : _____ <input type="checkbox"/> Approval <input type="checkbox"/> Reject P.E. engineer : _____ <input type="checkbox"/> Approval <input type="checkbox"/> Reject <div style="text-align: right;">Approval : _____</div>		
Accessories : <input checked="" type="checkbox"/> Specification <input checked="" type="checkbox"/> Sample <input type="checkbox"/> Drawing <input type="checkbox"/> Test Report <input type="checkbox"/> AT Command sets <input type="checkbox"/> Packing Diagram		

Rayson *Bluetooth*[®] Module

BC05-MM Class2 Stereo Flash Module

BTM-760

Features

- The module is a Max.4dBm(Class2) module.
- Fully Qualified Bluetooth v3.0 system.
- Integrated Switched-Mode Regulator.
- Integrated Battery Charger.
- Embedded Kalimba DSP Co-Processor.
- Integrated 16-bit Stereo Audio CODEC
95dB SNR for DAC.
- Enhanced Audibility and Noise Cancellation.
- Integrated with 16M bits flash memory.
- Support Host Interface: USB or UART.
- Support Digital Audio Bus : PCM, I²S or SPDIF.
- HSP/HFP/A2DP/AVRCP profiles support.
- Integrated chip antenna (or W.FL connector)
- RoHS compliant.
- Small outline. 16.0 x 23.9 x 2.6 mm.

Applications

- High Quality Stereo Wireless Headsets.
- High Quality Mono Headsets.
- Hands-Free Car Kits.
- Wireless Speakers.
- VOIP Handsets.
- Analogue and USB Multimedia Dongles.
- Bluetooth-Enabled Automotive Wireless Gateways.

Outline



General Electrical Specification

Absolute Maximum Ratings:			
Ratings	Min.	Max.	
Storage Temperature	-40 °C	+85 °C	
Supply Voltage (VBAT)	-0.4V	4.4 V	
Supply Voltage (VDD_CHG)	-0.4V	6.5V	
Supply Voltage (VDD_PIO)	-0.4V	3.6V	
VREGENABLE_H(POWER_ON)	-0.4V	4.9V	
Recommended Operating Condition:			
Operating Condition	Min.	Max.	
Operating Temperature range	-20 °C	+75 °C	
Supply Voltage (VBAT)	2.5V	4.4V	
Supply Voltage (VDD_CHG)	4.5V	6.5V	
Supply Voltage (VDD_PIO)*	1.8V	3.6V	
	*For UART Application, Supply Voltage (VDD_PIO) is 1.8V~3.6V		
	*For USB Application, Supply Voltage (VDD_PIO) must be 3.3V		
Power Consumption:			
Mode	Average	Unit	
Stand-by	0.5~8.7	mA	
A2DP Streaming	21~30 (Rx)	mA	
HFP Active Call	18~23	mA	

RF Specification: VDD=3.3V Temperature=+20°C

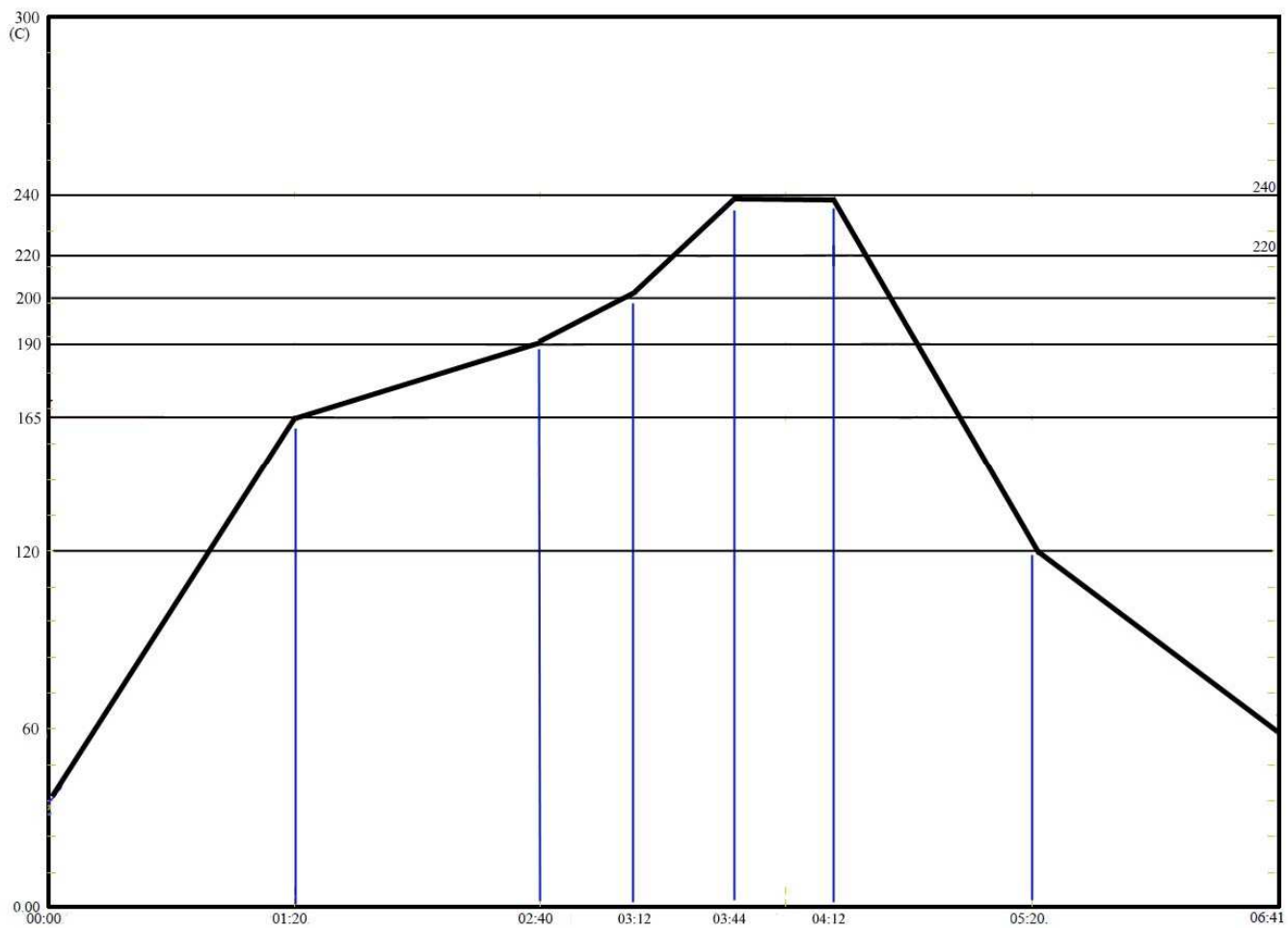
Transmitter

	Min	Typ	Max	Bluetooth Specification	Unit
Maximum RF transmit power (RF test point)	-	2	-	-6 to +4	dBm
RF power control range	-	35	-	≥16	dB
RF power range control resolution	-	0.5	-	-	dB
20dB bandwidth for modulated carrier	-	916	-	≤1000	kHz
Adjacent channel transmit power F = F0 ± 2MHz	-	-30	-	≤-20	dBm
Adjacent channel transmit power F = F0 ± 3MHz	-	-50	-	≤-40	dBm
Adjacent channel transmit power F = F0 ± > 3MHz	-	≤-50	-	≤-40	dBm
Δf1avg Maximum Modulation	-	166	-	140<f1avg<175	kHz
Δf2max Minimum Modulation	-	154	-	115	kHz
Δf1avg/Δf2avg	-	0.92	-	≥0.80	
Initial carrier frequency tolerance	-	±20	-	±75	kHz
Drift Rate	-	±14	-	≤20	kHz/50μ
Drift (single slot packet)	-	±20	-	≤25	kHz
Drift (five slot packet)	-	±20	-	≤40	kHz
2nd Harmonic Content	-	-50	-	≤-30	dBm
3rd Harmonic Content	-	-55	-	≤-30	dBm

Receiver

	Frequency (GHz)	Min	Typ	Max	Bluetooth Specification	Unit
Sensitivity at 0.1% BER for all packet types (RF test point)	2.402	-87	-86	-	≤-70	dBm
	2.441	-87	-86	-		
	2.480	-87	-86	-		
Maximum received signal at 0.1% BER	-	-	≥-10	-	≥-20	dBm
C/I co-channel	-	-	7	-	≤11	dB
Adjacent channel selectivity C/I F = F0 + 1MHz	-	-	-6	-	≤0	dB
Adjacent channel selectivity C/I F = F0 - 1MHz	-	-	-7	-	≤0	dB
Adjacent channel selectivity C/I F = F0 + 2MHz	-	-	-21	-	≤-20	dB
Adjacent channel selectivity C/I F = F0 - 2MHz	-	-	-39	-	≤-30	dB
Adjacent channel selectivity C/I F = F0 - 3MHz	-	-	-43	-	≤-40	dB
Adjacent channel selectivity C/I F = F0 + 5MHz	-	-	-47	-	≤-40	dB
Adjacent channel selectivity C/I F = Fimage	-	-	-17	-	≤-9	dB
Maximum level of intermodulation interferers	-	-	-30	-	≥-39	dBm
Spurious output level	-	-	-156	-		dBm/Hz

Solder Reflow Temperature Profile



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:

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.

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

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

As long as 1 condition 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

The final end product must be labeled in a visible area with the following: "Contains FCC ID: QWO-BTM76X". 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:

The product comply with the Canada 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.

Déclaration d'exposition aux radiations:

Le produit est conforme aux limites d'exposition pour les appareils portables RF pour les Etats-Unis et le Canada établies pour un environnement non contrôlé.

Le produit est sûr pour un fonctionnement tel que décrit dans ce manuel. La réduction aux expositions RF peut être augmentée si l'appareil peut être conservé aussi loin que possible du corps de l'utilisateur ou que le dispositif est réglé sur la puissance de sortie la plus faible si une telle fonction est disponible.

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.

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: 5613A-BTM76X".

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 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: 5613A-BTM76X".

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.