



JM7130S20PL-B RF Module – 2.4GHz, GFSK 4Mbps Transceiver (RoHS Compliant)

1.0 General Description

The JM7130S20PL-B module is designed for 2.4GHz ISM band wireless applications using GFSK transceiver. This module features a fully programmable frequency synthesizer by SPI. The data rate is 4Mbps.

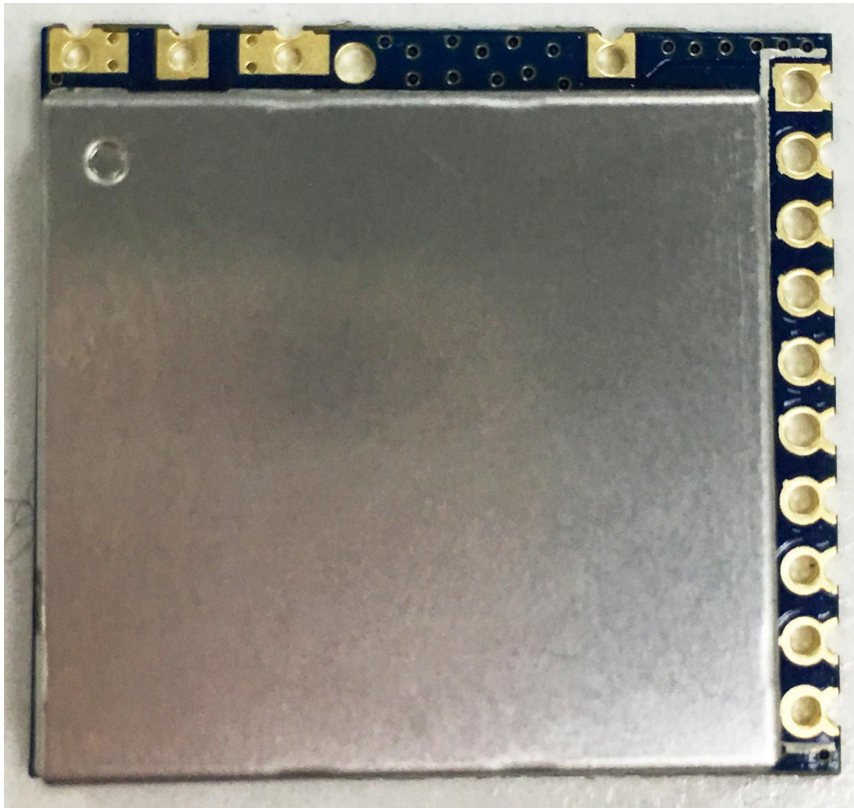
2.0 Electrical specification

Item	Specification	Remark
Supply Voltage	3.3V	+/-0.1V
Current Consumption	<10uA (typical) @Sleep mode 2.5mA (typical) @Standby mode 250mA (typical) @Tx mode 30mA (typical) @Rx mode	Typical
Frequency	2400 – 2483.5MHz	ISM band
Transmit Output Power		
Rx Sensitivity	-90dBm (typical) @ 4M mode, Dev = 1MHz	Typical, BER $\leq 1E-3$, With Gaussian filter.
Modulation	GFSK	
Transmission Distance	Dipole Antenna: > 50 meters (typical) - Closed area > 350 meters (typical) - Open area (LOS)	Line-of-Sight
Connector Interface	10 pin 2.0mm header	
Dimension	23 (L) x 21.5(W) x 4.2(H) mm (+/-0.5mm)	- With External Crystal - Without connector
Crystal Frequency	16MHz +/-20ppm	
Operating Temperature	-20 ~ +70°C	



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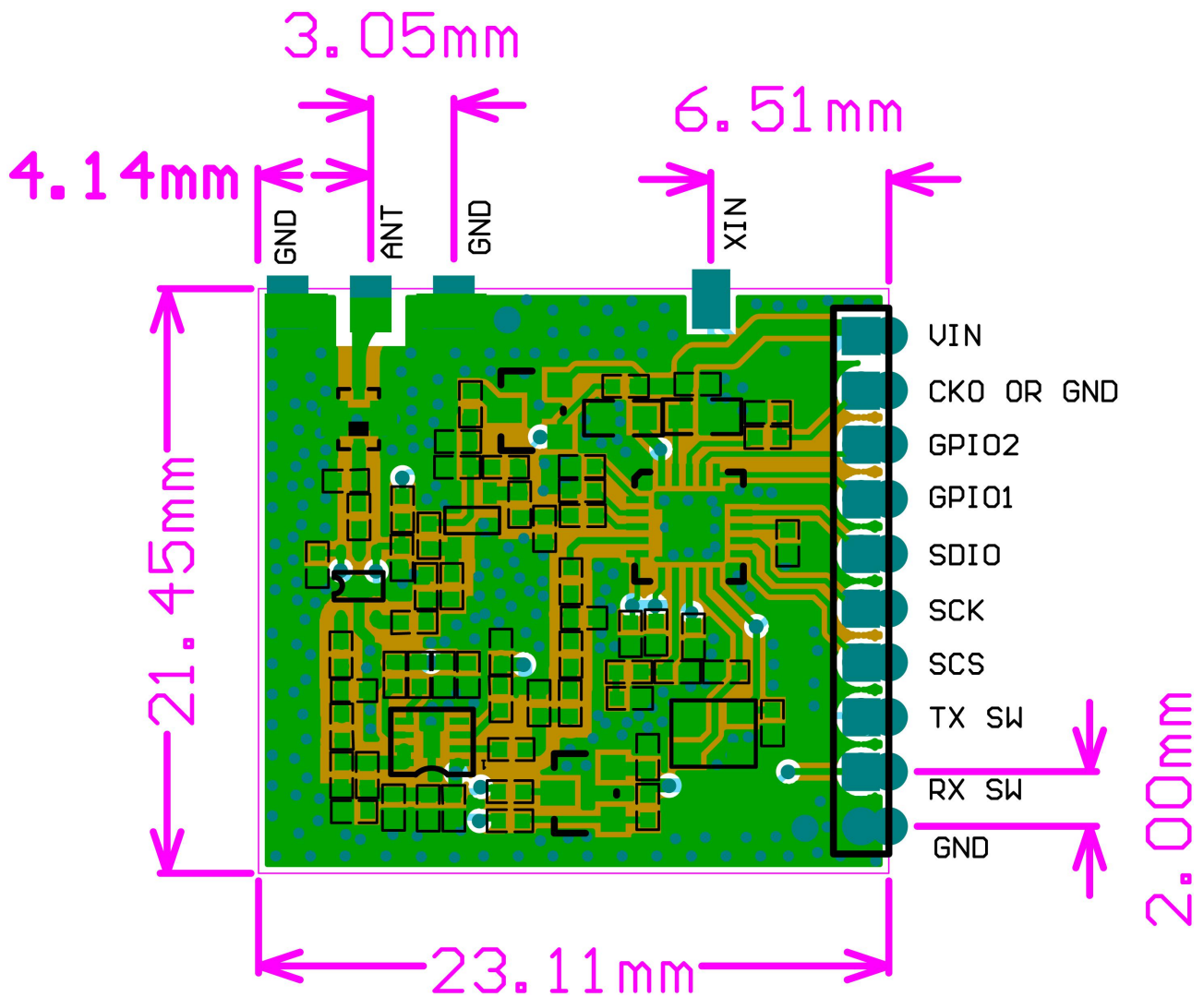
3.0 Module Picture



Top view

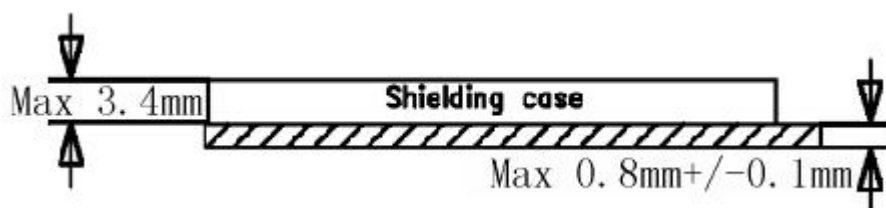


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Top view

4.0 Mechanical Dimension



Side View



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5.0 Interface

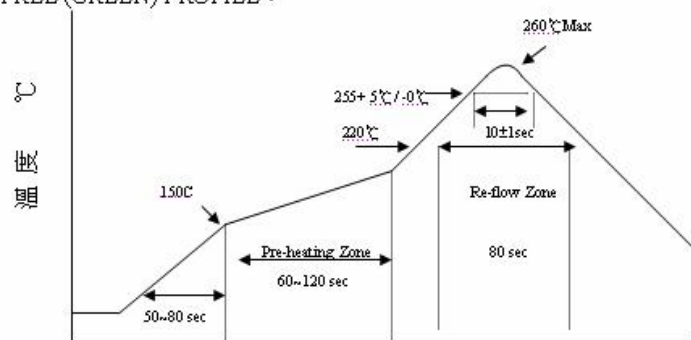
Pin No.	Pin name	Comment	Note	
1	REGI33	RF module supply voltage input	3.3V	
2	CK0	Clock output of A7130		
3	GI02	General Purpose I/O 2		
4	GI01	General Purpose I/O 1	Active low	
5	SDIO	SPI Data I/O		
6	SCK	SPI Clock		
7	SCS	SPI Chip Selection		
8	TX SW	RF front end PA/LNA select	Active low	
9	RX SW	RF front end PA/LNA select		
10	GND	GND		
11	X' tal in	Clock in for A7130		

6.0 PA & LNA control state

Control function	RX ON	TX ON	TR/X OFF	Inhibition
TX SW	1	0	1	0
RX SW	0	1	1	0

7.0 Reflow Profile

LEAD FREE (GREEN) PROFILE :





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8.0 Ordering Information

Part number	Size (mm)	Remark
JM7130S20PL-B	23 (L) x 21.5(W) x 4.2(H) mm (+/-0.5mm)	With 4Mbps data rate



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9.0 JM7130S20PL-B Packing Method





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: 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: The Grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment.

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 cannot be met (for example 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.

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 JM7130S20PL-B module is designed to comply with the FCC statement. FCC ID is 2AAIXVCM713OVO1. The host system using JM7130S20PL-B, should have label indicated it contain modular's FCC ID: 2AAIXVCM713OVO1.

The device has been evaluated to meet general RF exposure requirement.

To maintain compliance with FCC's RF exposure guidelines, the distance must be at least 20 cm between the radiator and your body, and fully supported by the operating and installation configurations of transmitter and its antenna(s).



IC Warning:

If the IC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following:

“Contains Transmitter Module IC: 8102A-VCM713OVO1

When the module is installed inside another device, the user manual of this device must contain below warning statements:

This device complies with Industry Canada licence-exempt RSS standard(s). 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.

Le présent appareil est conforme aux CNR d'Industrie 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, et

(2) l'utilisateur de l'appareil doit accepter tout brouillage radio électrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

The device has been evaluated to meet general RF exposure requirement. To maintain compliance with RSS-102 — Radio Frequency (RF) Exposure guidelines, this equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body.

le dispositif a été évalué à répondre aux exigences générales d'exposition aux ondes radioélectriques. Pour maintenir la conformité avec les directives d'exposition du RSS-102-Radio Fréquence (RF), ce matériel doit être installé et exploité à une distance minimale de 20 cm entre le radiateur et votre corps.