Panasonic

User Guide

Panasonic Model: R8U1FA6550Z
P/N: R8U1FA6550Z

BTv4.0 Dual Mode USB HCI Module

FCC ID: U6YBT800
IC: 219P-BT800

Rev. A

Nov. 6, 2017

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1. Scope

This document describes overview of Panasonic Bluetooth module, R8U1FA6550Z, and its implementation note for the manufacturer uses the module.

2. Operational description

Panasonic Bluetooth RJM module, R8U1FA6550Z is a Wireless Bluetooth module conforms to Bluetooth standards and operates in the unlicensed band at 2.4GHz.

3. Implementation note

Panasonic Bluetooth RJM module, R8U1FA6550Z is designed is a PCBA to be placed into an enclosure.

Panasonic Bluetooth RJM module, R8U1FA6550Z is designed to operate with a custom PCB trace antenna. The antenna listed as follows. The maximum gain of the antenna is -2.3dBi. The antenna impedance is 50 ohms.

Antenna:

Part Number	Manufacturer	Type	Gain (dBi)
R5UA1468ZA	Panasonic Corporation	PCB Trace	-2.3

4. Installation and availability

The R8U1FA6550Z is a sub assembly that is professionally assembled into passenger aircraft cabins by trained installers qualified to service aircraft. This product is custom made specifically for passenger aircraft cabins to provide short range Bluetooth connectivity to passenger(s) within close proximity, and is not listed or offered for sale to the general public.

5. FCC and IC Regulatory Compliance

Documentation Requirements

When integrating the Bluetooth module, R8U1FA6550Z into the product, the manufacturer shall meet the documentation requirements of FCC and IC. The followings outline information that may be included in the user's guide and external labels for the product integrates the Bluetooth module, R8U1FA6550Z.

FCC Note:
Manufacturer shall place the following wording on the product and it shall be visible by the customer at the time of purchase.

"Contains FCC: U6YBT800" and "Contains IC: 216P-BT800"

User's Guide Requirements

The Bluetooth RJM module, R8U1FA6550Z complies with FCC Part 15 Rules for a Modular Approval. The transmitter module must not be located close to any other transmitter or antenna.

With the above condition, no other testing is required, but the manufacturer must still have responsibility for the product compliance. In case the above conditions are not met, the FCC authorization is no longer valid and FCC ID is not allowed to be used. For this reason, manufacturer must have responsibility for the compliance of end product.
When manufacturer uses the R8U1FA6550Z module, it must include specific information into user guide of the product. And manufacturer must not include information how to install or remove this module in user guide. Manufacture must also put the following FCC statements without any modification at prominent place in user guide.

Federal Communication 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.

FCC Caution:
Any changes or modifications not expressly approved by Panasonic Avionics Corporation could void the user's authority to operate this equipment.
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.

IMPORTANT NOTE:
FCC Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

Industry Canada
Manufacturer shall place the following wording on the product and it shall be visible by the customer at the time of purchase.

“Contains IC 216P-BT800”

RF Radiation Hazard Warning
Using higher gain antennas and types of antennas not certified for use with this product is not allowed. The device shall not be co-located with another transmitter.

Cet avertissement de sécurité est conforme aux limites d'exposition définies par la norme CNR-102 at relative aux fréquences radio.

This radio transmitter (Contains IC: 216P-BT800) has been approved by Industry Canada to operate with the antenna types listed in table above with the maximum permissible gain and required antenna impedance for each antenna type 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.

Le présent émetteur radio (Contains IC: 216P-BT800)
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.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotopically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

This device complies with Industry Canada license-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 radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

6. General Comments

- There are no user serviceable parts.
- Service can only be performed by trained aircraft installers (qualified persons).
- There are no components requiring tune up.

7. Radio Specification

- Bluetooth (Ver 4.0 Dual Mode Classs Bluetooth and BLE
- Frequency of Operation: 2402MHz – 2480MHz
- Modulation BT: FHSS, (GDSK, π/4DQPSK, 8DPSK) (1MHz)
- Modulation LE: GFSK (2MHz)

- Power Supply to Radio: 3.3VDC ~ 1.8VDC
- Antenna Type: Printed Circuit Board Microstrip Antenna
- Antenna Gain: -2.3dBi
- Clock Frequency: 48MHz

8. **RF Exposure Evaluation Statement**:

a) Conclusion: a power level of 0.2mW (includes antenna gain) in BLE mode is EXEMPT.
b) Conclusion: the measured power of 4.87mW (includes antenna gain) in FHSS mode is EXEMPT.
c) Module separation distance is allowed to be ≤5mm.