



LBEE5CJ2XK Radio Module - Integration Instructions

Document Revision History

Issue	Date	Change
A	2026-04-15	First issue.
B	2026-04-20	Added sections to match FCC guidance document "996369 D03 OEM Manual v01r01". Moved existing text into the General section.
C	2026-04-21	Revised wording of antenna statement and power table.

Model Number (HVIN): LBEE5CJ2XK
FCC ID: AQO018
IC: 10176A-018

Introduction

This document is intended to provide instructions for integrating radio module LBEE5CJ2XK into a host product.

General

The radio module shall be integrated within a host product in accordance with Murata's instructions:

Murata document number E2B-09-1413

Title "*Type1XK | LBEE5CJ1XK | Type2XK | LBEE5CJ2XK | hw application note*"

File name "*type1xk-2xk-hw-application-note.pdf*"

That document details the required host PCB layout and associated circuit components. However note that the original FCC / ISCED certifications have been subject to a change in ID / multiple listing and that all reference within that document to the original Murata IDs should be replaced with AQO018 / 10176A-018. The radio module is unchanged from the original Murata filing.

The radio module is intended to be fitted to products manufactured by Pektron and not sold to third parties.

List of applicable FCC rules

The radio module complies with the following FCC rules:

- Part 15 Subpart C
- Part 15 Subpart E

Summary of specific operational use conditions

Wi-Fi channels shall not be enabled if their use requires Dynamic Frequency Selection (DFS).

Wi-Fi channels shall not be enabled which are restricted to indoor use only if the host is intended for use outdoors unless excepted for use in a vehicle.

Bluetooth Low Energy (BLE) operation shall not be used.

The radio module's maximum power setting shall be as follows:

Mode	Power Setting (dBm)	Tune Up Tolerance (dBm)
2.4 GHz Wi-Fi IEEE802.11b/g/n	8.0	± 2.0
5 GHz Wi-Fi IEEE802.11a/n	8.0	± 2.0
Bluetooth BR	3.3	± 3.0
Bluetooth EDR	0.0	± 3.0

Since the radio module is not sold to general end users directly, there is no end user manual for the module. The radio module is soldered directly to the host PCB and it is not feasible for the end user to install or remove it.



LBEE5CJ2XK Radio Module - Integration Instructions

The following FCC regulatory information and warning shall be included in the end user manual for the host:

This device complies with part 15 of the FCC Rules.

- Part 15 Subpart C
- Part 15 Subpart E

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.

Compliance with FCC requirement 15.407(c)

Data transmission is always initiated by software, which is passed down through the MAC, through the digital and analog baseband, and finally to the RF chip. Several special packets are initiated by the MAX. 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 is being transmitted. In other words, this device automatically discontinues transmission in case of either absence of information to transmit or operational failure.

FCC CAUTION Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, this equipment should be installed and operated with minimum distance 20 cm (7.9 inches) between the antenna and your body during normal operation. Users must follow the specific operating instructions for satisfying RF exposure compliance.

Contains FCC ID: AQO018

The following ISED regulatory information and warning shall be included in the end user manual for the host in both English and French:

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

This device complies with the Canadian ICES-003 Class B specifications. CAN ICES-003(B) / NMB-003 (B).

This equipment complies with ISED RSS-102 radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. In order to avoid the possibility of exceeding the ISED RSS-10 radio frequency exposure limits, this equipment should be installed and operated with minimum distance 20 cm (7.9 inches) between the antenna and your body during normal operation. Users must follow the specific operating instructions for satisfying RF exposure compliance.

Contains IC ID: 10176A-018
Contains HVIN: LBEE5CJ2XK

Limited module procedures

Not applicable, the radio module is not certified with a limited modular grant.

Trace antenna designs

Not applicable, the radio module shall not be used with PCB trace antennas.

RF exposure considerations

The host shall be installed and operated such that there is a minimum distance of 20 cm (7.9 inches) between the antennas and the body of any person during normal operation. The radio module shall not be co-located or operated in conjunction with any other antenna or transmitter.

Antennas

The radio module has been tested with the following antennas. Antenna types not included in this list shall not be used. Antenna types listed shall only be used if the gain is equal or lower to the gain indicated.

Bluetooth

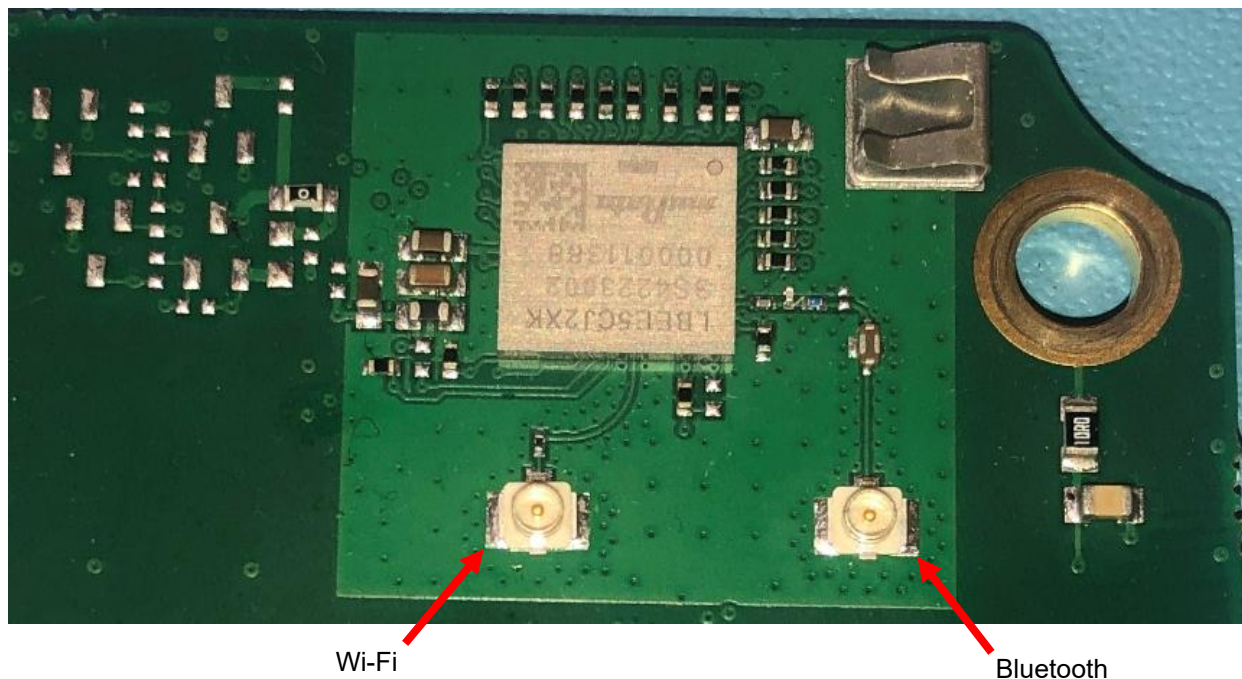
Vendor	Part Number	Peak Gain (dBi) 2.4 GHz	Type	Connector
TE Connectivity	2108792-4	3.48	Dipole	u.FL

Wi-Fi

Vendor	Part Number	Peak Gain (dBi)		Type	Connector
		2.4 GHz	5 GHz		
TE Connectivity	2108792-5	3.04	5.00	Dipole	u.FL

Associated circuit components and PCB traces connecting the radio module to antenna connectors shall conform to the layout guidance in Murata's hardware application note as above.

Example host PCB bearing u.FL antenna connectors:



Label and compliance information

The radio module is too small to be labelled with the FCC ID and ISED ID. Note that the text shown in the photograph above is approximately size 2.5 point and is not legible without magnification.

The host device which the radio module is installed within must display a label referring to the enclosed module:

Contains FCC ID: AQO018
Contains IC ID: 10176A-018
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Information on test modes and additional testing requirements

The complete host product with the radio module installed shall be tested to verify that the integration is correct and continues to comply with the rules listed on the FCC grant and ISED certificate.

Bluetooth, Wi-Fi in 2.4 GHz and 5 GHz bands

Transmitter radiated spurious emissions:

- Restricted Bands of Operation FCC 47 CFR 15.205
- Maximum Peak Conducted Output Power FCC 47 CFR 15.247 (a)(1), (b)(1), (b)(2) and (b)(3), 15.407(a)

Additional testing

The radio module is only authorised for the specific rule parts listed on the FCC grant and ISED certificate. The host product must be tested to verify compliance with all other applicable rules, including but not limited to FCC Part 15 Subpart B (Unintentional Radiators).