

enel x



JuiceBox 3.0 NA

Wi-Fi / Bluetooth Module Manual

ENGLISH

Scope

This document is applied to the Shielded Ultra Small Wi-Fi® 11b/g/n + Bluetooth® 5.1 Module, Model No. 1DX, of the manufacturer Murata Manufacturing Co. Ltd.

Description

Type 1DX is a module based on Infineon CYW4343W combo chipset which supports Wi-Fi® 802.11b/g/n + Bluetooth® 5.1 BR/EDR/LE up to 65Mbps PHY data rate on Wi-fi® and 3Mbps PHY data rate on Bluetooth®. The WLAN section supports SDIO v2.0 interface and the Bluetooth® section supports high-speed 4-wire UART interface and PCM for audio data. The module is mounted on the Main Board of the Juice Box 3.0 NA.

Block Diagram

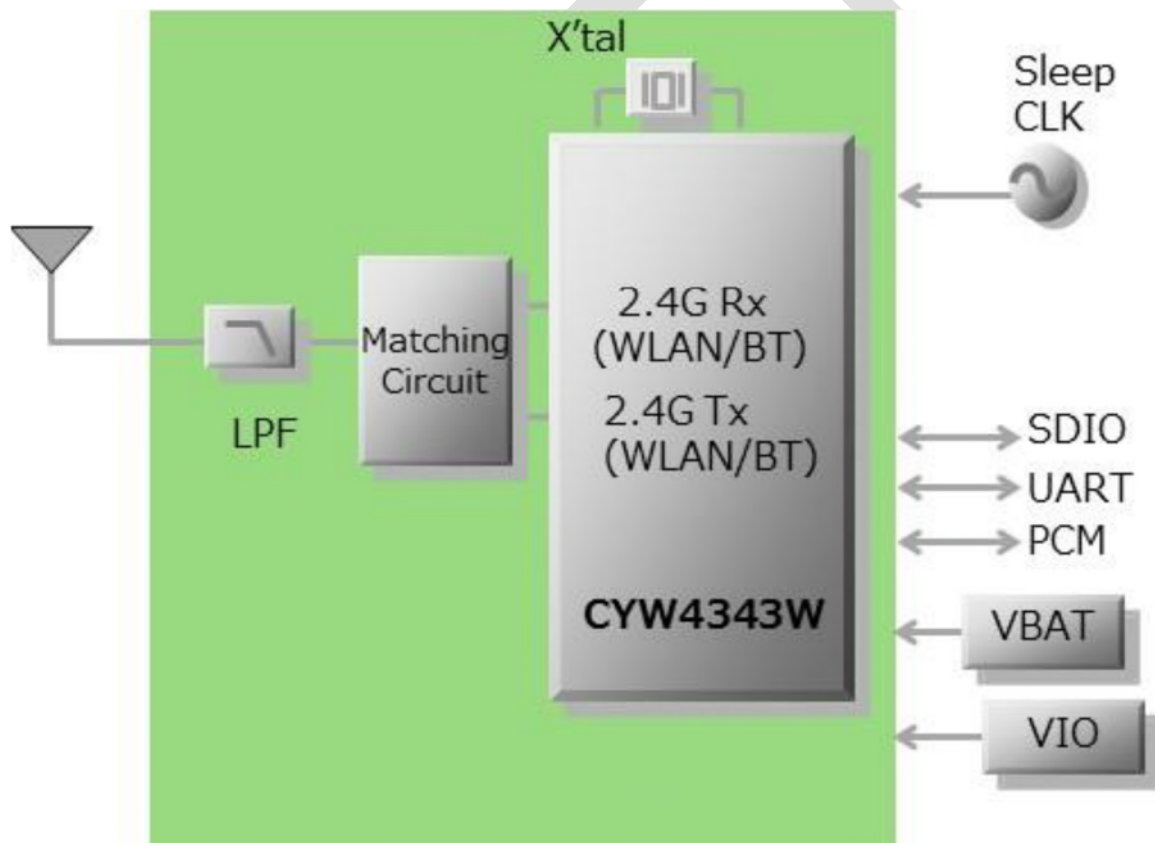


Figure 1 - Wi-Fi/Bluetooth module block diagram

Pictures

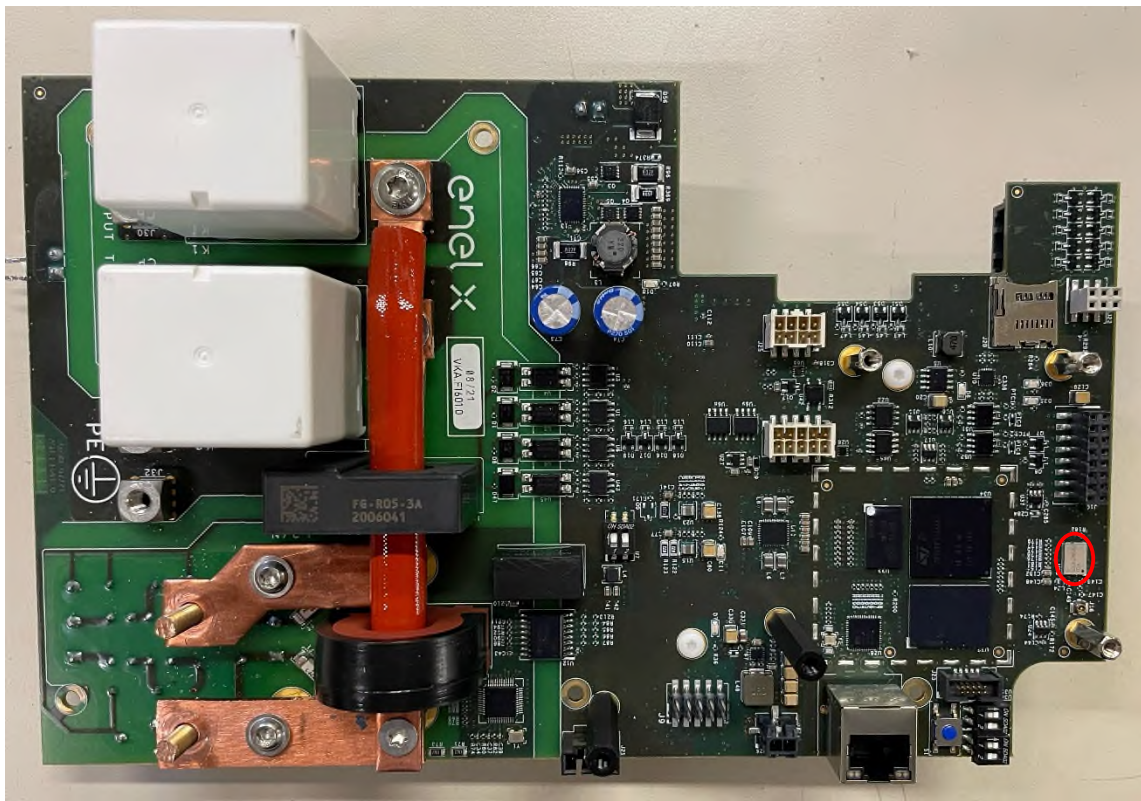
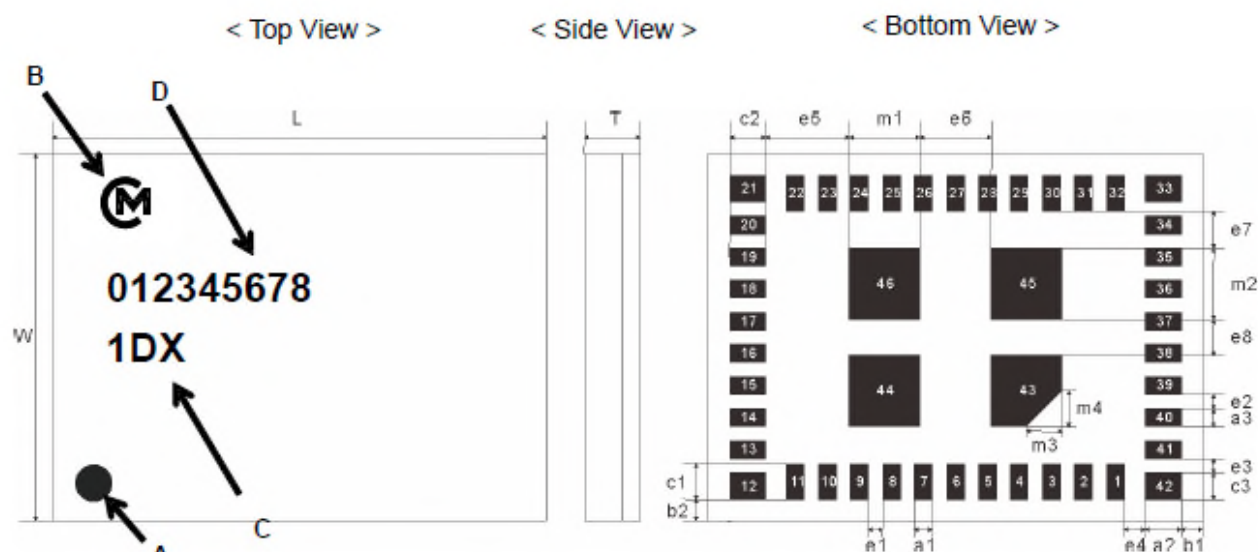


Figure 2 - Main Board (Wi-Fi/Bluetooth module encircled)



Figure 3 - Wi-Fi/Bluetooth module (detail)

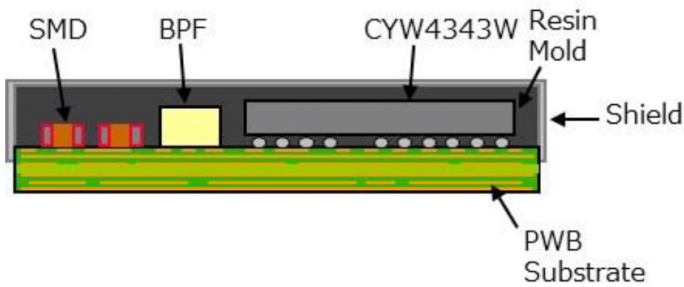
Dimensions



Marking	Meaning
A	Pin 1 Marking
B	Murata Logo
C	Module Type
D	Inspection Number

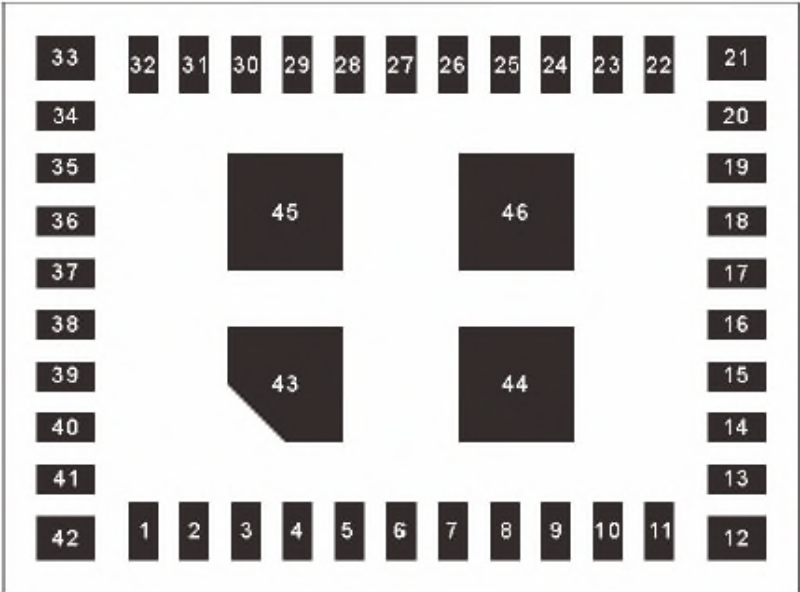
Dimensions		(unit : mm)			
Mark	Dimensions	Mark	Dimensions	Mark	Dimensions
L	6.95 +/- 0.2	W	5.15 +/- 0.2	T	1.1 max.
a1	0.25 +/- 0.10	a2	0.5 +/- 0.1	a3	0.25 +/- 0.10
b1	0.30 +/- 0.2	b2	0.30 +/- 0.2	c1	0.50 +/- 0.1
c2	0.50 +/- 0.1	c3	0.375 +/- 0.100	e1	0.2 +/- 0.1
e2	0.2 +/- 0.1	e3	0.2 +/- 0.1	e4	0.3 +/- 0.1
e5	1.175 +/- 0.100	e6	1.0 +/- 0.1	e7	0.525 +/- 0.100
e8	0.50 +/- 0.10	m1	1.0 +/- 0.1	m2	1.0 +/- 0.1
m3	0.5 +/- 0.1	m4	0.5 +/- 0.1		

Structure



Pin Layout

Top View



No.	Terminal Name	No.	Terminal Name	No.	Terminal Name
1	GND	15	WL_GPIO_4	29	GND
2	BT_UART_RXD	16	BT_I2S_dO	30	VBAT
3	BT_UART_TXD	17	WL_GPIO_2	31	VIN_LDO
4	BT_UART_CTS_N	18	WL_GPIO_1	32	GND (SR_PVSS)
5	BT_UART_RTS_N	19	GND	33	GND (SR_PVSS)
6	BT_GPIO_3	20	SDIO_CLK	34	SR_VLX
7	BT_GPIO_4	21	GND	35	GND
8	BT_PCM_SYNC	22	SDIO_CMD	36	VIO
9	BT_PCM_IN	23	SDIO_DATA_2	37	LPO_IN (32kHz)
10	BT_PCM_OUT	24	SDIO_DATA_0	38	BT_HOST_WAKE
11	BT_PCM_CLK	25	SDIO_DATA_3	39	BT_DEV_WAKE
12	GND	26	SDIO_DATA_1	40	GND
13	BT_GPIO_5	27	WL_GPIO_0_HOST_WAKE	41	ANT
14	BT_REG_ON	28	WL_REG_ON	42~46	GND

Rating

		min.	typ.	max.	unit
Specification Temperature Range		-10	+25	+55	deg.C
Specification Voltage	VBAT	3.2	3.6	4.2	V
	VDDIO	1.71	1.8 or 3.3	3.63	V

Antenna Check

The concrete contents of a check are the following three points:

- It is the same type as the antenna type of antenna specifications. Confirm the same size as the Gerber file.
- An antenna gain is lower than a gain given in antenna specifications. Measure the gain, and confirm the peak gain is less than the application value (1.4dBi)
- The emission level is not getting worse. Measure the spurious and confirm degradation of less than 3dB than spurious value of worst of report used for the application.

Radio Certification Information

Enel X Way FCC ID: 2A5OV-LB1DX

Enel X Way ISSED ID: 28561-LB1DX

Federal Communications Commission (FCC) compliance statements

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.

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 transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines. This equipment should be installed and operated keeping the radiator at least 20cm or more away from person's 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
- 2)The transmitter module may not be co-located with any other transmitter or antenna.
- 3)The use of an antenna with gain less than 1.4 dBi.

As long as 3 conditions above are met, further transmitter test will not be required.

Industry Canada (IC) compliance statements

This device complies with Industry Canada's licence-exempt RSSs. 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.

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;*
- 2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.*

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment and meets RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment should be installed and operated keeping the radiator at least 20cm or more away from person's body.

Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement noncontrôlé et respecte les règles d'exposition aux fréquences radioélectriques (RF) CNR-102 de l'IC. Cet équipement doit être installé et utilisé en gardant une distance de 20 cm ou plus entre le radiateur et le corps humain.

RF Exposure requirements are met when installed in mobile equipment.

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,
- 2) The transmitter module may not be co-located with any other transmitter or antenna.
- 3) The use of an antenna with gain less than 1.4 dBi.

As long as 3 conditions above are met, further transmitter test will not be required.

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 3 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.

APPENDIX

Federal Communications Commission (FCC) and Industry Canada (IC) compliance statements of JuiceBox 3.0 NA

FCC Compliance Statement

Part 15

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 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.

Changes or modifications not expressly approved by Enel X Way could void the user's authority to operate the equipment.

FCC ID

The equipment contains the FCC IDs 2A5OV-ST25, 2A5OV-LB1DX, RI7-LE910CXNF.

Formal notices required by the Industry Canada (“IC”)

Compliance Statement

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.

Declaration de Conformité

L’émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d’Innovation, Sciences et Développement économique 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;
2. L’appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d’en compromettre le fonctionnement.

IC ID

The equipment contains the ICs 28561-ST25, 28561-LB1DX, 5131A-LE910CXNF

Mobile Devices

To ensure compliance with FCC and ISED RF exposure requirements this device must be installed to provide a minimum of 20cm between the device and people.

Pour garantir la conformité aux exigences d'exposition RF de la FCC et d'ISED Canada, cet appareil doit être installé de manière à laisser un minimum de 20 cm entre l'appareil et les personnes.